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A PRELIMINARY OBSERVATION ON THE PHARMACOLOGY OF ERGOMETRINE

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Cassar Moir in 1932 pointed out that the liquid extract of ergot B. P. 1914, which did not contain any ergotoxine, produced contraction of a parturient uterus, and he attributed this effect to the presence of a substance quite different from ergotoxine. In fact he was of opinion that the use of ergot during puerperium, which existed for a long time, and which produced the desired effect was really due to the presence of this substance and not to ergotoxine. Subsequently Dudley and Moir (1935) were able to isolate an alkaloidal substance which was different from ergotoxine chemically and pharmacologically, and to which they gave the name ergometrine.

During the last two years considerable interest has been roused by announcements in the British, American and Continental scientific journals concerning new active alkaloids isolated from ergot, which have, as one of their characteristic features, the power to produce quick and vigorous uterine action when given by the mouth after parturition. Although several such alkaloids have been described and diversely named (Ergometrine, Ergotocin, Ergostetrine, Ergobesine and Ergometrinine), no satisfactory evidence is forthcoming to show that they are one and the same substance.

The action of ergometrine differs from the alkaloids of the ergotoxine group in that the effects are produced within 5 to 8 minutes when given by the mouth, 3 to 4½ minutes when given intramuscularly, and within a minute when given intravenously. Moreover when used for a prolonged period it has no gangrene producing property and its use is not followed by depression, headache and nausea so common with ergotoxine, ergotamine and ergoclavine.

Ergometrine is chemically $C_{19}H_{23}O_2N_3$

Since this new alkaloid has roused considerable interest, and apart from its action on the uterus not

much is known at present of its action on other organs, we decided to investigate its action on animals. The difficulty we had to encounter was to procure the pure alkaloid, as our earlier experiments were made with the hypodermic tablets and ampoules available in the market, till through the courtesy of Messrs. Burroughs Wellcome & Co., we received a supply of pure alkaloid. Its action was tested on the isolated uterus of rabbits and guinea-pigs, isolated heart, and on intact animals (chiefly dog).

Uterus.—The effect of ergometrine was tested on both gravid and non-gravid uterus of rabbits and guinea-pigs. A strip of uterus from a recently killed animal was taken and suspended in a glass vessel (capacity 150 c.c.) containing oxygenated Ringer's solution, and this was enclosed in a water-bath to maintain a uniform temperature of 35—37°C., and the movements were recorded on a slow moving drum. Non-gravid uterus showed no appreciable change with 0·05 mg., 0·1 mg., 0·4 mg. and 0·5 mg., whereas it reacted at once to pituitrin. (see Graphs 1, 2, 3 and 4). Subsequently we procured pregnant guinea-pigs and the same procedure was adopted to record the movements (Graph 5). The typical effects of ergometrine were elicited on gravid uterus, the intermittent contractions were increased, the excursions became larger and continued for a long time. Even after a large dose there was no tetanic contraction, i.e., the uterus did not remain in a state of contraction as happens with ergotoxine or pituitrin.

Intestine.—The effect on the intestine was tested with isolated strips suspended in the bath containing oxygenated Ringer's solution (*vide* uterus) as well as on intact animal with Jackson's Enterograph. In both experiments it produced very little effect, there being little sign of increased contraction. (Graph 6).

Circulatory System.—The action of ergometrine on the heart is rather interesting. It produced a marked stimulation of the isolated heart and this was more marked when the heart was weak. The heart of the rabbit and guinea-pig was perfused with oxygenated Locke solution through Gunn's apparatus. Graph 7 shows that it increases the frequency and contraction. Graph 8 shows the action on a weak heart and the effect is significant. This action is due to the direct effect of the drug on the cardiac muscle.

The blood-pressure was taken on dogs. The animal was anaesthetised with paraldehyde and was fixed on a table and the carotid artery was connected with a mercurial manometer, clotting being prevented with sodium citrate solution. One of the femoral veins was connected through a nozzle with a burette containing normal saline and the drug in solution was injected into the vein, a small quantity of saline was run afterwards. The pressure was recorded with a float from the manometer. The respiratory movements were taken by connecting the xiphoid cartilage with the writing lever through pulleys. The blood-pressure showed slight rise and since the vessels were not constricted, the effect was due to cardiac action. A second dose or a larger dose produced no further effect. (see Graph 9).

Respiratory system.—Its action on respiration was not marked, no noticeable change being observed. In some cases however it made the movements regular, but this was not constant.

Conclusions

1. Ergometrine has very little effect on non-gravid uterus.

2. It causes powerful contractions of the gravid uterus, which are made stronger and regular. It does not throw the uterus into tetanus.

3. It stimulates the heart directly, making the beats stronger and quicker.

4. It causes a slight rise of blood-pressure, which though not very high is marked.

5. There being no peripheral vaso-constriction it has no gangrene-producing effect like ergotoxine.

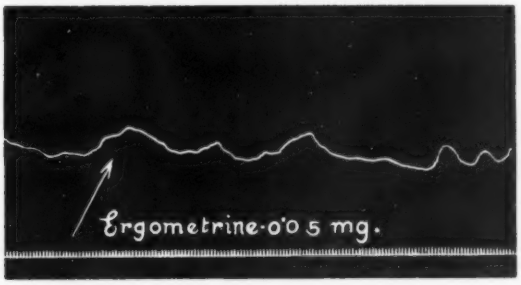
Reference

Moir, *British Medical Journal*, June 19, 1932.

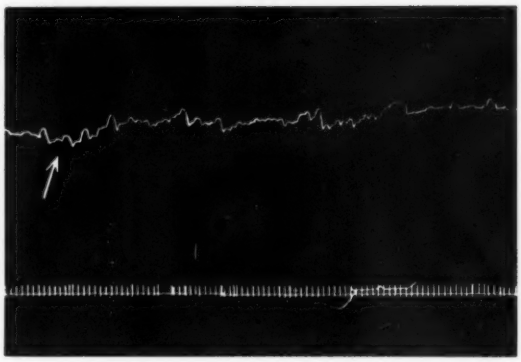
Dudley and Moir, *British Medical Journal*, March 16, 1935.

British Medical Journal, December 7, 1935.

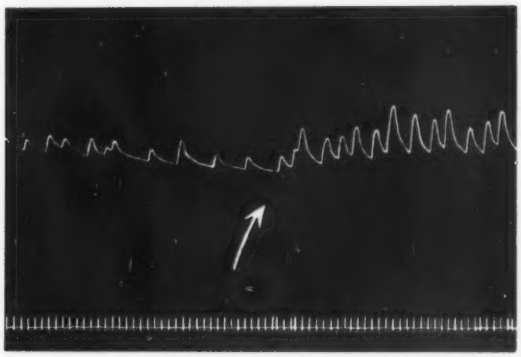
GRAPH 1



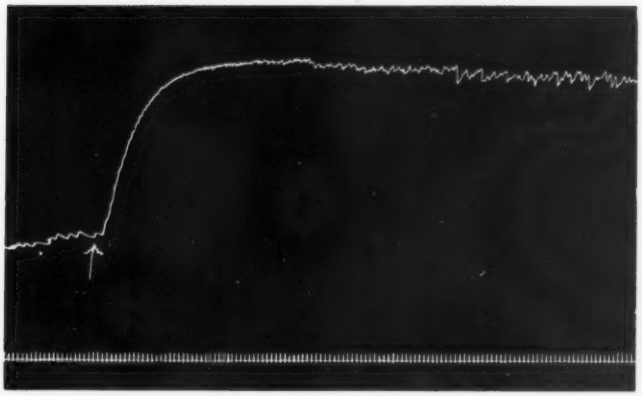
GRAPH 2



GRAPH 3



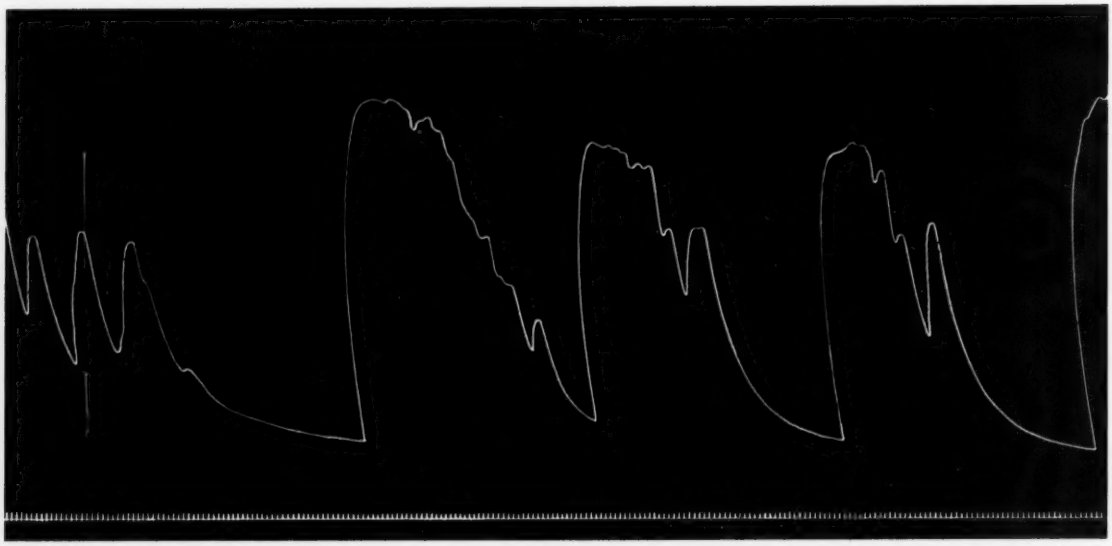
GRAPH 4



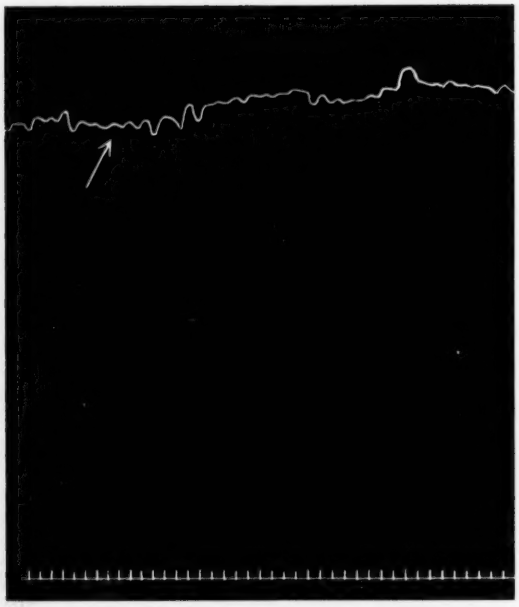
GRAPHS 1, 2 & 3. Showing effects of Ergometrine on non-gravid uterus in doses of 0·05 mg., 0·1 mg., 0·5 mg.

GRAPH 4. Compare effect of Pituitrin on nongravid uterus.

GRAPH 5



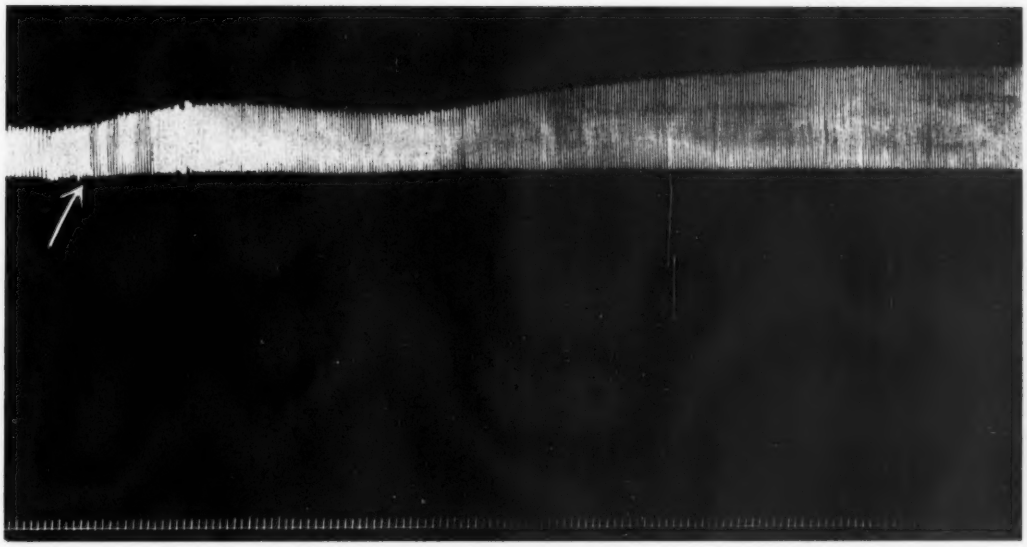
GRAPH 6



GRAPH 5. Showing effect of Ergometrine on gravid uterus of guineapig. Note increase of intermittent contractions.

GRAPH 6. Showing effect of Ergometrine on the isolated strip of intestine.

GRAPH 7



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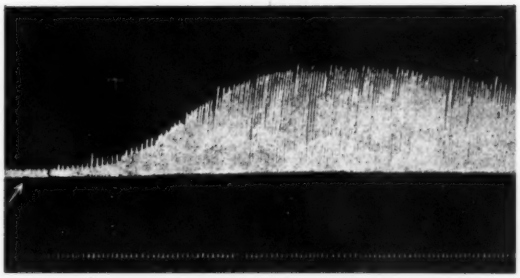
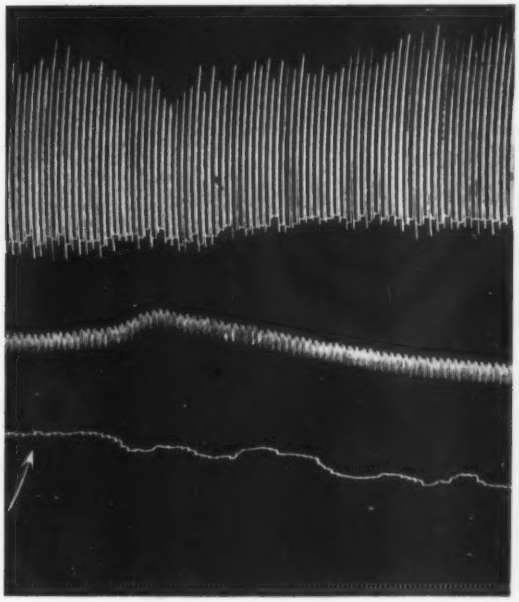


GRAPH 9

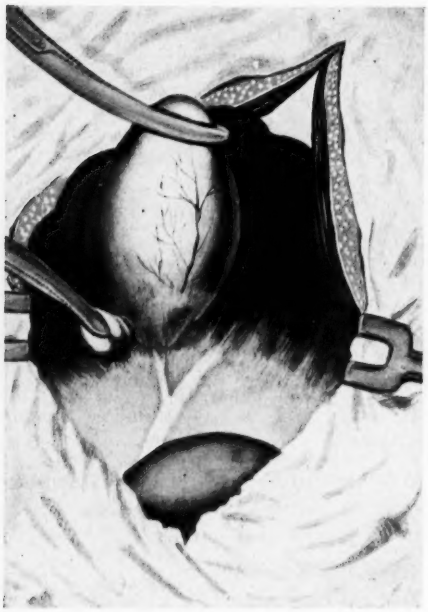


GRAPHS 7 & 8. Perfusion of isolated heart of rabbit. Note increase in rate of contraction.

GRAPH 9. Showing effect of Ergometrine on blood-pressure, respiration and intestine. Note slight rise of B. P., little or no change in the respiratory movements and intestinal contractions.

Preliminary Observation on the Pharmacology of Ergometrine.—GHOSH, DATTA & ADYA.

Diagrams of the Operation

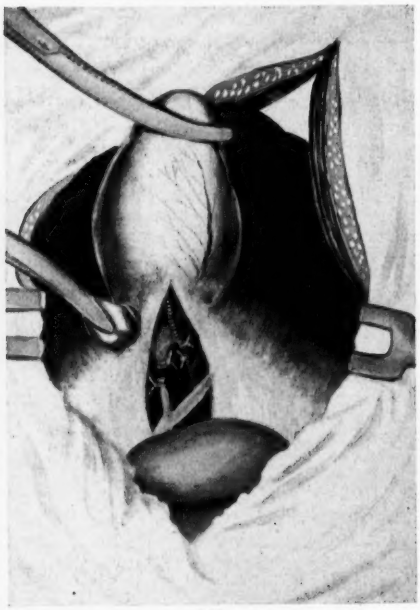


I

The abdomen is opened, the liver rotated upwards and backwards on its lateral axis and the gall-bladder stretched by pulling on its fundus and Hartman's pouch. The disposition of the ducts are well seen.

II

The peritoneum over the cystic duct has been opened and the cystic artery and the junction of the cystic and hepatic ducts are exposed by dissection.



III

The cystic duct and artery are ligated and divided.

IV

The completed operation is shown after removal of the stone from the gall-bladder, decortication of its mucous membrane and closing of the opening in the peritoneum.

THE ANATOMY AND PHYSIOLOGY OF THE GALL-BLADDER WITH SPECIAL REFERENCE TO AN ALTERNATIVE OPERATION TO CHOLECYSTECTOMY

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The anatomical disposition and structure of the gall-bladder described here are based on frequent and careful observation of normal as well as diseased gall-bladders in man and on dissection of the viscus and the ducts in cadavers. Only such anatomical facts are discussed as have a bearing on the subject.

The views with regard to its functions are based on observed facts, on the anatomy and structural peculiarities of the human gall-bladder and on the analogy of the excretory mechanism of other glands and ducts.

I have not profited from a study of the results of animal researches on the functions of the gall-bladder. These fascinating experiments often executed with great skill and ingenuity are bewildering in their variety and contradictory in their results.

The longitudinal axis of the gall-bladder is directed from before backwards, upwards and to the left. Its narrow posterior end, usually called the neck shows a sharp constriction and terminates in the cystic duct which is very frequently "S" shaped at its commencement and is about one inch and a half in length. The direction of the duct being backwards, downwards and to the left, it forms a sharp angle at its junction with the neck of the gall-bladder. This gall-bladder angle can only be straightened out on rotating the liver upwards and backwards on its transverse axis and pulling upwards the fundus of the viscus with a clamp.

The fundus and the under surface of the gall-bladder are covered by peritoneum, the rest of the sac being embedded in the liver substance to which it is loosely attached by fibro-vascular tissue. In chronic inflammation of the gall-bladder this tissue becomes thick and more vascular and renders the removal of the gall-bladder difficult on account of the laceration of the liver tissue and haemorrhage, which the operation may involve.

Usually the fundus of the gall-bladder projects slightly beyond the anterior border of the lower surface of the liver, but is not palpable in health as it is then never full or tense.

Occasionally the viscus as a whole may be completely invested by peritoneum and suspended by a mesentery on the under surface of the liver.

The variation from normal of surgical importance is the complete investment of the organ by liver tissue, which altogether hides it from view.

An almost similar condition is produced by disease when the fibrosed and shrunken gall-bladder sinks into the liver substance and its existence can only be guessed from what appears to be a thin line of fibrous tissue on the lower surface of the liver in the position where the gall-bladder is usually found.

Hartman's Pouch: A pathological diverticulum (Hartman's Pouch) develops at the neck of the gall-bladder in cholelithiasis and overlies the cystic duct. It appears to be a pressure pouch, the result of a collection of stones at the neck, which are often impacted in that situation.

Existence of the sphincter of Oddi discussed: The common bile-duct about 3 to 4 inches in length, commencing at the junction of the cystic and hepatic ducts and passing successively behind the first part of the duodenum and the postero-lateral surface of the head of the pancreas, ends in the bile papilla in the second portion of the duodenum. Before its termination it is ordinarily joined by the pancreatic duct and then dilates into an oval pouch known as the ampulla of Vater. A band of circularly disposed muscle fibres, the sphincter of Oddi is said to guard its opening in the bile papilla of the duodenum. So uncertain is its existence that the situation of the sphincter has been described by some to be in front of the ampulla and behind it by others.

Even after most careful dissections on several occasions I failed to discover the sphincter. The thickness or consistence and the circular disposition of the muscle fibres in the fibro-muscular coat of the common duct are uniform throughout its whole length.

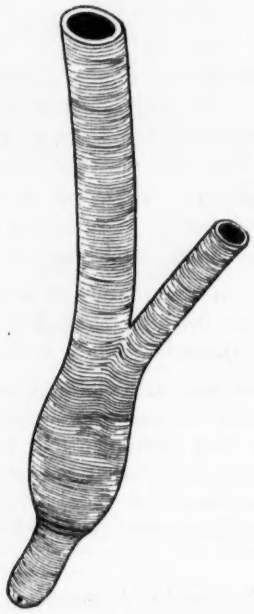

DIAGRAM NO. I.

Dissection of a common bile duct with the ampulla of Vater and bile papilla to show the non-existence of the sphincter of Oddi.

The diagram shows clearly the arrangement of muscle fibres.

The duodenal wall is the sphincter of the common duct: However, the muscular portion of the duodenum, through the wall of which the terminal portion of the biliary duct passes obliquely into it, gives the necessary valvular action to the duct and may act as a sphincter in duodenal spasm.

There is no sphincter of the common duct. It discharges bile into the second portion of the duodenum in much the same way and by a similar mechanism as the ureter drains urine into the bladder.

The structure of the gall-bladder and its duct: The normal gall-bladder is a thin fibro-muscular sac lined by a highly specialized mucous membrane. The wall of the average adult gall-bladder is only about 1/16 inch thick. Its fibro-muscular coat mainly fibrous and slightly muscular is very thin and hence possesses very feeble contractile power and normally only slight extensibility. In certain diseased conditions, however, it may gradually undergo much hypertrophy and considerable dilatation. Its termination in the cystic duct is guarded by a valve.

Directions of the ducts: The cystic duct joins the hepatic duct at an acute angle. The common bile-duct thus formed descends to its destination in the original direction of the hepatic duct, there being no angle or kink interposed between the two ducts.

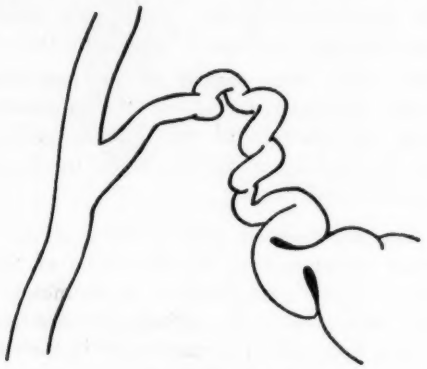

DIAGRAM NO. II.

Diagram of a gall-bladder with the cystic, hepatic and common ducts showing their relationship to each other and the calibres of the ducts from a specimen in the Anatomical Museum of the Vienna University.

Diameters of the ducts: Of the three ducts, the bile duct has the largest diameter ($\frac{1}{4}$ inch), the cystic duct the smallest ($\frac{1}{8}$ inch) and the diameter of the hepatic duct is almost the same as that of the bile duct.

The blood supply of the gall-bladder: A study of the blood supply of the gall-bladder is necessary for the consideration of the merits of this operation.

The gall-bladder has two sources of blood supply and not one as is generally supposed.

The serous covering of the bile sac, which overlies its fundus and its free surface, is supplied by the capsular branches of the hepatic artery uniformly distributed over the sero-fibrous capsule of the liver which is so incorporated in its substance as not to be perceptible except where it comes out to form its various ligaments and to supply a covering to the gall-bladder.

These minute branches passing through the fibro-muscular coat of the gall-bladder anastomose in the loose areolar space intervening between its two coats with the branches of the cystic artery, whose main function is to provide a plentiful supply of blood to the mucous membrane.

From the embedded surface of the gall-bladder through the fibro-vascular tissue connecting it with the under surface of the liver the cystic artery also communicates with capillaries of the hepatic artery. This is the channel of infection in hepatitis early localized in the neighbourhood of the gall-bladder and which follows an acute inflammation of the bile sac. Thus the cystic artery is not an end artery as it is assumed to be.

These two sets of minute vessels derived from the hepatic artery and anastomosing with the cystic artery undergo some hypertrophy and dilatation in chronic cholecystitis.

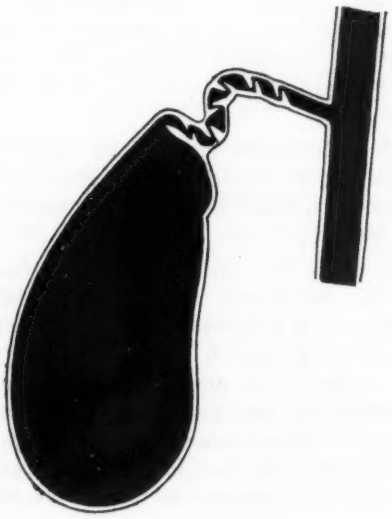

DIAGRAM NO. III.

Diagrammatic representation of the arrangement of the valves of the gall-bladder and its duct.

If, therefore, the mucous membrane of the gall-bladder is removed or thoroughly curetted and the cystic artery, which chiefly supplies the mucous membrane is tied gangrane does not result from the operation.

The structure and the function of the valves of the gall-bladder and the cystic duct: The structure and functions of the valves of the gall-bladder and the cystic duct are of special interest in a consideration of the gall-bladder function and deserve careful study.

These valves are reduplications of the mucous membrane between the layers of which are interposed circularly arranged plain muscle fibres, which preserve their forms.

These muscle rings may serve when necessary as efficient sphincters and may by their contraction bring about a complete closure of the lumens of the neck of the gall-bladder and its duct.

On a longitudinal section of the gall-bladder and the cystic duct the valves are seen to be triangular in form, the bases lying at the circumference of the duct and the apices directed towards the centre of the lumen.

The shapes of these valves are maintained by the fibro-muscular coat of the bile sac and its duct, which stretches across their bases.

The valve of the gall-bladder is a somewhat semi-circular disc, which projects into the gall-bladder neck almost completely closing its outlet.

The multiple valves of the cystic duct from five to eight in number are arranged like spirals. Each valve is separate and so obliquely disposed that its two ends lie at different levels one above the other and overlap.

In the same way the two crescentic halves which project more than half way into the lumen of the duct, also overlap.

Thus a current of fluid passing either from the gall-bladder into the cystic duct or in the opposite direction unless of sufficient force to push the valvular folds either downwards or upwards from their normal obliquely transverse position would fail to make its way through the duct.

If hot water is forced through a gall-bladder immediately after removal with its duct by operation while the duct is tied at its lower end, a peculiar varicose appearance is produced the pouches of which are obliquely disposed being dilatations of those portions of the duct which intervene between the valvular constrictions.

This varicose appearance is, I believe, mainly

due to the spasm of the sphincters which are seen to be tightly contracted.

Diagram No. IV.

In dried specimens of the cystic duct the obliquely arranged valves resemble one complete spiral of 5 to 8 rings.

A Small Experiment

If the cystic duct of a dog is tied its gall-bladder atrophies and after three months is reduced to a much contracted fibrous structure. The result is similar if its blood supply also is cut off at the same time.

No perceptible dilatation of the common duct results from the operation. The success of this small experiment depends upon the observance of the following technique:—

1. The cystic duct should be tied with ligature in two places and completely divided and the portion of the intervening duct removed.

2. The blood vessel should be tied separately with catgut and divided.

3. The gall-bladder should be completely emptied by aspiration and washed out with sterile normal saline solution.

The nervous mechanism of the gall-bladder and its duct: Not much is definitely known of the nervous mechanism of the gall-bladder and its duct.

The vagus possibly stimulates the gall-bladder to contract and inhibits the fibres of the muscle rings at the valves.

The sympathetic fibres to the gall-bladder and the cystic duct, which have their chief centre at the ninth dorsal segment of the spinal cord,are probably sensory in function to the gall-bladder and motor in function to the valves and the sphincters and are responsible for the pain and the sphincteric spasm and resistance to the evacuation of the gall-bladder content brought about by a disturbance of the normal balance of the two systems in disease.

The Function of the Gall-Bladder

An examination and consideration of the anatomy and arrangements of the hepatic and common ducts show that they are adapted to an unimpeded flow of bile from the liver to the duodenum. Thus they run down from the liver direct to their destination in a straight course without any kink or angulation and drain the bile towards the second part of the duodenum in all attitudes of the body.

In fact the two names "hepatic" and "common" are names given to arbitrary divisions of one and the same duct, which has a uniform calibre throughout its length.

The cystic duct on the other hand has half the calibre of the hepatic duct, which it joins at an acute angle. It is provided with (1) a very efficient set of valves, (2) an "S" shaped twist in its course and (3) a kink at its junction with the gall-bladder. The gall-bladder also has a valve guarding its neck with a well-defined constriction at the point. The course of the cystic duct leading to the gall-bladder is in a direction opposite to that of the bile flow.

These structural peculiarities of the gall-bladder and its duct render the entry of bile into it an extraordinarily difficult process and an up-hill work.

Thus for any bile to reach the gall-bladder it will have to do so by the process of regurgitation against very high frictional resistance due not only to the small calibre of the cystic duct, but also due to the twists and kinks and angles, which intervene, and against the obstruction of the numerous valves and sphincters which lie in the way. But we know

that regurgitation is a rare physiological event, which occurs only in an emergency, and it is quite reasonable to assume that this rule operates in the case of the gall-bladder and the cystic duct also.

Bile is being constantly secreted and eliminated through the hepatic duct. The quantity discharged through the duct and its rate of flow depend on the pressure exerted by the amount of bile secreted by the liver, which in its turn varies according to the needs of digestion.

Even during periods of active digestion the amount of bile that flows into the duodenum is not always the same but varies considerably according to the degree of hormonic stimulation possibly excited by the quantity and nature of the diet.

In the intervals of digestive activity the elimination of bile by the hepatic duct is so little that it takes some time before the common duct is full enough to exert sufficient pressure to overcome the slight resistance exerted by the duodenal wall on the terminal portion of the bile duct, which passes through it and ends in the bile papilla.

The pressure of accumulated bile also stimulates the musculature of the bile duct to contract and aid in the propulsion of bile into the duodenum.

The flow of bile from the hepatic duct into the duodenum is unimpeded because the direction of flow is downwards and practically in a straight line and because the calibre of the two ducts is the same.

During this normal flow of bile from the liver to the duodenum the valves of the cystic duct and that of the gall-bladder are closed by their sphincters.

Immediately after meals when the processes of digestion are active, the drainage of the increased flow of bile through the hepatic and common ducts is accelerated by active peristalsis in the duodenum as well as in the ducts themselves.

The access of bile into the gall-bladder in health is only possible when during a very active secretion of the fluid the pressure in the common duct is raised considerably above the normal due either to a retardation or an arrest of its flow, the result respectively of a partial or a temporary obstruction to or a spasmodic closure of the duodenal end of the common duct; conditions which must occur very infrequently.

These special features in the structure of the gall-bladder and its duct must also make it difficult for bile to flow out of it.

The small capacity of the gall-bladder, the generous supply of capillaries and lymphatics to it, its structural peculiarity and that of its duct consisting of a large surface of mucous membrane designed for absorption of fluid, the proved concentration of bile in it and the feeble contractile power of its wall, all indicate that very little of the bile that reaches the gall-bladder leaves it again and that only on rare occasions.

This storage or stagnation of bile is the chief factor in the formation of stones in it. It is possible that some of the stored fluid is evacuated on the rare occasions when the gall-bladder is really full and is thus stimulated to contract and partially empty its contents.

It is also possible that some of this fluid is excreted from time to time under special hormonic stimulation as extraordinary demands for bile are made by the digestive processes. But it is difficult to determine what such circumstances may be.

A concentrated fatty meal is said to act as such a stimulant.

The presence of some special irritant in the duodenum may also so affect the digestive tract as to induce a sufficiently vigorous peristalsis even of the gall-bladder and its duct to enable it to evacuate its contents.

Every one of the abdominal viscera has what may be called its normal capacity, which of course varies in different individuals and at different ages. The normal capacity of a viscus is its capacity to hold a quantity of solids or fluid or a mixture of both according to the nature of its function without any strain being put on its walls.

If filled to this limit only a sensation of fulness is felt. Normally this is a signal for the emptying of its contents, which is effected quickly or slowly, voluntarily or involuntarily by the mechanism of peristalsis according to the nature and function of the organ.

If over-distended as in the case of the stomach after an injudicious, heavy meal or as in the case of the bladder when for any reason the urine cannot be evacuated, there is reflex pain or discomfort over

the cutaneous area, which is supplied by nerves originating from the same segment of the spinal cord as the viscus itself.

In case of obstruction to the passage of its contents pain is considerably increased and becomes colicky in nature due to violent and irregular peristalsis.

The presence of an irritant may without causing any abnormal distension produce similar colic and agonizing pain.

In the case of the gall-bladder in health there is no sensation of fulness after a meal and no discomfort and pain even after a very heavy meal or during periods of active digestion, nor is its fundus palpable then beyond the costal margin, although most of the large quantity of bile, estimated at about 1½ litre a day, is secreted at such periods and the gall-bladder is supposed to fill up. Further an examination of the healthy gall-bladder on opening the abodomen for surgical treatment of some other abdominal organ shows the gall-bladder to be only half full and that it is necessary to exercise a certain amount of steady pressure to evacuate its contents.

These are further proofs, if such proofs are necessary to show that the gall-bladder is seldom full to its normal capacity and that its contents do not leave it except in emergencies and under conditions enumerated above.

What impress one strongly in a study of the gall-bladder behaviour are its great activity in and capacity for concentrating the bile, which on occasions finds its way into it and for which task it is well equipped by the generous supply of capillaries and lymphatics to its mucous membrane, the absorbing surface of which is more than doubled by the polygonal folds in which it is arranged and by the several valvular reduplications at the neck of the gall-bladder and in the course of the cystic duct.

Equally impressive is the fact of its inertia, which appears to be inherent in it, in parting with any bile that may infrequently reach it by a process of regurgitation as described above.

The concentration and storage of bile in it furnish the most important predisposing factors in the formation of calculi, sterile and septic.

Although it is only during its inflammation acute or chronic that the gall-bladder becomes irritable and its peristaltic action is chiefly manifested yet occasionally even the facts of disease lend support to the view of its general peristaltic inactivity and tolerance of the presence of calculi in it.

Thus a mild chronic infection of the gall-bladder continuing for many years and resulting in the formation of a single large calculus of multiple calculi and hypertrophy and dilatation of its wall may cause no symptoms of the disease, the existence of which may only be discovered at an autopsy after death due to some other disease or only during an acute exacerbation of the chronic cholecystitis.

I have myself removed a calculus nearly as large as a hen's egg from a much hypertrophied and enlarged gall-bladder of a man of 62, which must have taken several years to form without producing any symptoms of its existence until six months before the operation when it was discovered during an acute inflammation of the gall-bladder with biliary colic.

A lady of 68, a doctor's wife, who had borne nine children and the youngest of whom was 26 years old, carried without any inconvenience or symptoms over 260 calculi in her gall-bladder till the appearence of the first symptoms 3 months before the operation in which they were removed.

In chronic cholecystitis the symptoms are due to gall-bladder irritability, which is an abnormal characteristic caused by disease.

But this irritability functions mostly in acute inflammation and in acute exacerbation of a chronic infection.

In such conditions an abnormally excessive secretion of mucus takes place in the gall-bladder, makes it tense and strongly stimulates it to contract and empty its contents. In this effort it is only very partially successful owing to its muscular feebleness, thus setting up a vicious circle.

The swelling of the mucous membrane with its increased surface friction brings the valvular folds nearer to each other, and to the walls of the gall-bladder and the cystic duct, renders the passage of the thick and viscid bile, which now fills up the gall-bladder, difficult resulting in spasmodic contraction of the bile sac to expel its contents. This pressure though temporarily successful leads to pain and pain to spasm of the sphincters and an arrest of the further flow of the bile due to the futility of

the gall-bladder, which only exhausts itself in its efforts in further expelling its contents.

The enforced rest brings about a cessation of pain and relaxation of the sphincters and a gradual accumulation again of the inflammatory products when the process is repeated.

In this way the cycle of alternate distension and evacuation, of agonizing pain and relief from it, continues until the inflammation subsides.

Pain is the result of the distension and is similar to the pain caused by the distension of the renal pelvis in calculus obstruction.

Similar symptoms are produced by the impaction of a stone in the neck of the gall-bladder causing exacerbation of a chronic inflammation and is relieved either by the release of the calculus or its escape into the duodenum through the common duct.

The nervous mechanism is described elsewhere.

The Secretory function of the gall-bladder: The only known secretion that the gall-bladder has is mucus which except in inflammation of the viscus, is chiefly derived from the mucous glands in its duct and is added to the bile it contains.

A consideration of the functions of the gall-bladder and the results of its operative removal in diseases in persons, who survive the operation, leave no doubt as to the fact that the part it plays in the digestive processes of the intestines is but a minor one and may be safely dispensed with.

Channels of Gall-Bladder Infection

There are four possible channels of infection of the gall-bladder *viz*: (1) the common duct, (2) the hepatic duct, (3) the lymphatics from the liver, and (4) the blood channel.

1. An ascending infection through the common duct may occur only when this duct itself is infected and obstructed. The absence of bacteria in the duodenum, the general freedom of the duct from infection and the normal direction of the bile current downwards and away from the gall-bladder render this ordinarily impossible.

2. Of the two ducts, the hepatic duct is the more common channel of infection in which the regurgitated septic bile acts as the vehicle.

3. Only the lymphatics from the under surface of the liver and two or three lymphatics from its deeper tissues pass into the hepatic lymph glands in which the gall-bladder lymphatics also empty themselves. But it should be noted that the hepatic lymph flow here is parallel in direction to the gall-bladder lymph path and therefore an infection of the gall-bladder through this channel must be a very uncommon occurence.

4. There is growing evidence of a frequent blood borne infection of the gall-bladder.

Pathological Conditions of the Gall-Bladder

The gall-bladder is subject to the same forms of infection as any other tissue or organ of the body.

Thus an acute bacterial infection mild in character or severe in form, which may lead to suppuration or empyema and even gangrene, and an infection by bacteria of low virulence chiefly streptococci, causing a chronic inflammatory condition, which produces various pathological changes more or less permanent in character, are seen.

Neoplasms—benign or malignant—other than carcinoma are practically unknown.

Papillomas are sometimes seen but they are the result of chronic inflammation and are always associated with it.

Carcinoma of the gall-bladder is rare and is only seen in less than half per cent of all cases of cholecystitis.

In 90 per cent. of the cases of carcinoma of the gall-bladder calculi are found in it.

As a result of chronic inflammation the following structural changes in the gall-bladder and its duct may be noted.

Change in colour: The characteristic bluish lustre may change through various gradations to an opaque greyish white colour in the most old-standing cases of chronic inflammation, due to an extreme degree of fibrosis.

Change in consistence: The fibrous change occasionally associated with a deposit of fat leads to progressive thickening and loss of elasticity of the sac. Even in early cases such changes, slight in character, may be appreciated on careful examination.

Change in size: A gall-bladder containing numerous calculi is generally increased in size and contains very little bile in it.

In a case of hydrops of the viscus due to more or less complete obstruction of the duct the gall-bladder is greatly distended. The fluid inside it, colourless or only slightly bile-stained, is often associated with a single stone impacted at its neck.

The gall-bladder, which is the victim of a very old-standing disease, the result of an infection by bacteria of very low virulence, is contracted, thick-walled and often more or less embedded in the liver tissue. It may have one or a few small stones inside it.

Changes in the mucous membrane: The lining epithelium may be partly or completely destroyed and replaced by a smooth surface intersected by scar tissue. Ulceration and papillomatous projections of the mucosa are occasionally seen. The colour of the mucous membrane in chronic inflammation when the bile is rubbed off, is a greyish-pink.

In the lipoid gall-bladder the mucous membrane has the appearance of an unripe strawberry.

Changes in the contents: The bile may be thick and viscid and dark green in colour and may contain an excess of mucus. The bile may be mixed with streaks of pus, if the gall-bladder is opened soon after the subsidence of an acute attack of inflammation. It may be mixed with stones of varying sizes or may be loaded with minute calculi called bile-sands.

A large solitary stone with almost normal bile is sometimes seen.

It is after an examination of these various naked-eye changes, the results of cholecystitis, that the surgeon has to decide the nature of the operation—cholecystostomy or cholecystectomy that he would undertake.

Microscopic changes, which can be noted only after the removal of the gall-bladder and do not help in the decision as to the nature of the operation to be undertaken in any given case, are not discussed here.

Many surgeons remove all diseased gall-bladders. They consider that by such radical surgical procedure they remove the organ where stones are formed and prevent the recurrence of pain and suffering associated with chronic cholecystitis.

They claim that after cholecystectomy the convalescence is quicker and the most annoying complication of a biliary fistula is prevented. The postoperative fatality is said to be about 3 to 6 per cent. in cholecystectomy.

But there is still quite a large number of surgeons, who have faith in the recuperative power and ability to return to normal of a diseased gall-bladder provided it is given a fair chance by drainage, according to the nature of the case.

By performing cholecystostomy they avoid the risk of serious haemorrhage from the gall-bladder bed, postoperative adhesions, pleural and pulmonary complications and a high death rate.

Death after cholecystostomy is certainly very rare while a death rate of 3 to 6 per cent. after cholecystectomy, high in itself, is a very conservative estimate and is possible only in the hands of very expert surgeons. Most often it is 10 per cent. or over.

While a biliary fistula after cholecystostomy is very uncommon and as is well known due to faulty technique and failure to remove the cause of the obstruction, which may lie in the common duct, the recurrence of pain and suffering due to re-infection of the gall-bladder and reformation of stones is fairly common and may be estimated at about 20 per cent.

While I have not seen as yet a case of fatal haemorrhage after cholecystectomy I have seen cases of very slow haemorrhage persistent from the time of the operation which undoubtedly come from the divided ends of the anastomoses between the minute twigs of the capsular and cystic branches of the hepatic artery dilated due to inflammation.

These were cases in which the operative removal of the gall-bladder was effected too soon after attacks of biliary colic.

Suture of the peritoneal covering of the gall-bladder did not stop the oozing which had to be stopped by gauze packing and would probably have proved fatal but for blood transfusion.

Postoperative haemorrhages—early and late—are not unknown and generally prove fatal.

There can be no doubt that basal pneumonia

and pleurisy often mild and occasionally severe, are fairly common and are due to the handling and manipulation of the liver and the exposure of a large raw surface, the gall-bladder bed, richly provided with capillaries and lymphatics to infection.

I have seen persistent regurgitant vomiting due to kinking of the duodenum by adhesions a few days after an operation for cholecystectomy performed by an experienced and careful surgeon.

Gastro-duodenal symptoms sometimes complained of after cholecystectomy are no doubt occasionally due to the same cause.

While I practised cholecystectomy as an operation of choice in the majority of my patients with generally excellent results I sought for a *via media* which would prevent the distressing recurrence of cholecystitis and cholelithiasis after cholecystostomy and yet possess all the virtues of cholecystectomy without its dangerous drawbacks.

Believing that chronic cholecystitis with or without calculi is the result of concentration and stagnation of bile in the gall-bladder, most frequently with added infection either from the liver through the hepatic duct or from other sources through the blood stream and depending on the phenomenon of the atrophy of a gland when its duct is completely occluded, as well as on the fact that if the cystic duct is tied and divided in a dog its gall-bladder atrophies in three months, I practised the operation described below on a small group of cases representing every variety of chronic gall-bladder disease, which included 2 cases of strawberry gall-bladder and 5 cases of cholecystitis with calculi.

The result in every case was satisfactory. There has been no recurrence of any symptoms in these patients for a period varying from five years to three years and no mortality.

This procedure closes the paths of infection to the gall-bladder, renders impossible the stagnation and concentration of bile in it and the formation of a postoperative fistula and ensures the ultimate atrophy of the viscus.

THE OPERATION

After a careful examination and diagnosis of the case all foci of infection that may be discovered in the patient are suitably dealt with.

The patient is put on a diet free from animal protein and fat.

Hexamine 10 grs. three times a day is administered for a week and the lower bowel is lavaged daily for the same period.

Blood may be transfused from a suitable donor a day before the operation into an anaemic patient or one, who gives history of jaundice in previous attacks of biliary colic.

The anesthetic may be local novocain infiltration of the tissues and that of the splanchnics after opening the abdomen or spinal anesthesia with gas or oxygen, if necessary.

¼ gr. of morphia may be administered one half hour before the operation chiefly as a sedative.

After placing the patient in the reversed Trendelenburg position with the loin elevated, the abdomen is opened by a para-median incision extending from the xiphoid to two inches below the umbilicus.

Besides the gall-bladder, the stomach, the duodenum, the head of the pancreas, the appendix and in the case of a woman the pelvic viscera are carefully examined.

The gall-bladder and the biliary ducts having been isolated by gauze packing the viscus with its duct is rendered tense by pulling on it with a pair of forceps applied to its fundus or on the Hartman's pouch when one exists.

The cystic duct is carefully dissected out and its relation to the hepatic and bile ducts having been determined to be normal two stout catgut ligatures threaded on aneurism needles are passed round the cystic duct about half an inch from each other and carefully tied. The duct is then divided between the ligatures and the intervening portion removed. The ends of the lower ligature are left long while the ends of the upper one are cut. By pulling on the lower ligature ends the common duct is rendered prominent and is carefully palpated for stones with two fingers of the left hand through the epiploic foramen and the thumb over it.

A search is now made for the cystic artery in the usual position, which, when found, is also tied and divided.

The gall-bladder is now opened at the fundus.

its bile drained out and its stones, if any, are removed.

The mucous membrane of the gall-bladder where it still persists is carefully curetted away with a sharp spoon.

In those cases where a thick and succulent looking mucosa is seen it can be decorticated. An incision about 1 to 1½ inches long down to the mucous coat having been made on the under surface of the gall-bladder the mucous membrane can generally easily be shelled out with the index finger.

The loose areolar tissue intervening between the mucous membrane and the fibro-muscular coat of the gall-bladder makes the thorough curettage or decortication of the former an easy process.

Lastly the gall-bladder is drained from the fundus by a small soft rubber drainage tube of the calibre of a No. 12 Jacque's catheter and brought out through the wound and fixed to the skin.

It is fixed in the usual way to the fundus of the gall-bladder by catgut sutures which also invaginate the edges of the fundus. A second drainage tube leading out from near the divided ends of the cystic duct is also fixed to the skin by the side of the first one.

The appendix is now removed and the abdomen closed in the usual manner.

The drainage through the first tube consists of a very small quantity of blood and that only on the first day.

The tube comes out in 7 or 8 days and the wound heals without incident.

The second tube is taken out after 48 hours.

Briefly the immediate postoperative treatment consists of ¼ grain of morphia, if the patient complains of pain or is restless, a rectal injection of 10 ounces of glucose solution every 6 hours in the first 24 hours, if possible without disturbing the patient's rest.

The patient is given glucose solution by mouth as soon as he is able to take it.

An hourly dose of ¼ grain of calomel up to 1 grain 24 hours after the operation, followed by a saline enema, is administered to evacuate the bowel and relieve flatulence.

Thereafter 10 grains of hexamine three times a day and daily colon lavage are given for a week.

The convalescence is uneventful.

The results of the operations performed are extremely hopeful and satisfactory.

When we consider what bad risks some of the patients are on account of their age, their fatty, flabby hearts and not uncommon chronic bronchial troubles, and the large operative mortality of cholecystectomy, it would seem unjustifiable to resort to radical removal of the gall-bladder when an operation such as is described and which puts the gall-bladder out of function, preventing the concentration and stagnation of bile and formation of stones in it, closes up all paths of infection leading to it, renders impossible the formation of a mucocele or a postoperative fistula and which is quickly and safely performed, will meet the needs of practically all cases of chronic inflammation of the gall-bladder with or without calculi.

For reasons stated in this article and as the results of those operations in which both the cystic artery and the duct were dealt with show, there need be no apprehension of gangrene of the gall-bladder due to the ligature of the artery.

The success of the operation in every variety of chronic cholecystitis depends on (1) thorough curettage of the mucous membrane (2) division of the cystic duct between two ligatures and tying and division of the cystic artery.

In spite of the careful search of statistics I could obtain no definite information with regard to the comparative prevalence of carcinoma as against cholecystitis. The only information of value ascertained was that in 90 per cent. of cases of cancer of the viscus stones were found in it.

Surgeons of considerable experience in gall-bladder surgery roughly estimate the proportion of cancer at ¼ to ½ per cent. of all forms of gall-bladder disease and all agree in believing that in most cases of cancer a history of symptoms of cholecystitis lasting for several years can be obtained.

It will thus be seen that the prevention of cancer of the gall-bladder does not necessarily require its complete surgical removal but only an early arrest of its chronic inflammation. This is very efficiently done by the operation described here, which also removes most of the epithelial cells of

the mucous membrane and brings about the atrophy of what cannot be surgically removed by cutting off the blood supply.

Prevention of gall-bladder cancer therefore may be said to lie in early diagnosis of chronic cholecystitis and certain arrest of the disease.

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A FEW OBSERVATIONS ON THE TREATMENT OF HAEMOPTYSIS IN PULMONARY TUBERCULOSIS AT THE JADABPUR TUBERCULOSIS HOSPITAL

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There is hardly any symptom in pulmonary tuberculosis which causes more anxiety to the patient and his relations and more worry to his physician than pulmonary haemorrhages and yet it is one of the commonest complications of pulmonary tuberculosis in its different stages. In 33 per cent. of our cases, the disease started with blood spitting. Early haemoptysis is sometimes a blessing in disguise. It pointedly brings to the notice of the patient, the importance of seeking early medical aid as compared to those cases which start with fever and cough and are treated for malaria, influenza, etc., till a diagnosis of tuberculosis is made too late.

Cases which die as an immediate result of haemoptysis are few. It occurs in those rare instances where an aneurysmal dilatation bursts into a big cavity. Coloured sputum and small bleedings are not to be feared but bleedings of any severity are always of far-reaching significance. Infected blood is aspirated into the healthier parts of the same lung or finds its way through the bronchus into the other lung and sets up lobular or even lobar consolidation. These pneumonic processes are regarded as allergic reaction and may completely resolve but in many cases where the resistence is

poor, the disease takes an acute turn. Recurrent haemoptysis always means a bad prognosis.

But important as this complication is it is embarassing that we are not yet in possession of any infallible and specific remedy nor do we know of anything which has a direct action in stopping haemorrhage. A large number of drugs which have been advocated from time to time and many new ones which are being introduced every year as a specific for controlling pulmonary haemorrhage, are a sufficient testimony to their doubtful utility. Fortunately in most cases the bleeding stops by itself; —the injured edges of the vessel favour clotting, there is lowering of blood pressure due to loss of blood and all that is necessary is to put the body in the most favourable condition to help nature in its work. Heroic attempts to 'do something' may be more harmful than beneficial.

Keeping these facts in mind, the treatment should be directed along the following lines:

(1) To put the patient to bed and give him perfect rest in a comfortable position.

(2) To allay his anxiety and alarm and to reassure him and his relations.

(3) To check troublesome cough and clear the respiratory passage as quickly as possible.

(4) To reduce the quantity of blood flowing through the lungs.

(5) To lower blood pressure and constrict the pulmonary arterioles.

(6) To increase the coagulability of blood where this is deficient.

(7) To check the bleeding point by mechanical means.

(8) To maintain nutrition by proper dieting and prevent constipation, and

(9) To prevent recurrence of haemoptysis in periodic bleeders.

We shall now take up these factors one by one.

(1) The patient must be put at absolute rest. Position of the patient is not of much significance. He should be placed in the most comfortable position in which he may remain for a number of days. Foot end of the bed should only be raised when the bleeding is very profuse and the circulation shows signs of failing. Silence should be enjoined. Fussy and nervous attendants and visitors should be eliminated. The patient may be allowed to sit upon the bed three days after the sputum has remained clear; after this period recurrence is unlikely.

(2) With regard to the second point, the reassurance of the physician with possibly a few doses of bromides will be found sufficient in small haemorrhages. It should be explained to the patient that he may take 3 to 4 days to cough out the retained blood and that it is good for him and should not cause any worry. For brisk haemoptysis there is one medicine which has stood the test of time and still remains the sovereign remedy and this is opium and its derivatives. It relieves the state of nervousness and anxiety of the patient, allays the cough, lowers the blood pressure, steadies the pulse and respiration and gives the patient and his relations a good amount of confidence. For bad cases an initial injection of gr. ¼ morphine sulph. is the best. For slighter cases gr. 1/16 repeated at intervals will suffice.

Observers however, have argued against its use on the following grounds—(a) that it abolishes the cough reflex and helps retention of blood. As a result secondary infection takes place, the newly formed clot is disintegrated and there is a recurrence of bleeding (b) that the retained blood sets up a pneumonic process and helps in the spread of disease (c) that ineffective cough reflex helps bronchogenic spread into the healthier lung—the expulsive efforts being strong enough only to bring the infected material up to the bifurcation of the trachea from where it is aspirated in the sound lung. All these arguments however apply to heavy morphonisation only. Judicious use of morphia—just enough to allay the troublesome cough and quiet the patient is one of the best remedies in our possession. Some of our patients could not stand morphine and became very sick and disturbed after its use. In these cases we have found heroin hydrochloride gr. 1/12 hypodermically quite serviceable. In fact wider use of heroin, of late, has convinced us that the patients stand and like heroin much better than morphine.

(3) As for allaying cough which is mainly irritative, heroin is the best for earlier stages. It relieves the cough but does not abolish the cough reflex altogether and patients do not find any

difficulty in bringing up their sputum. During an attack, sucking of ice soothes the cough and gives comfort to the patient. In later stages squill and ammonia in small doses will be found useful.

(4) For brisk haemoptysis it is often desirable to reduce the quantity of blood flowing through the lungs. This may be achieved by bandaging the thighs and arms alternately. Elastic bandages are used and sufficient pressure is applied to stop the venous circulation but not the arterial circulation. Bandages are at first applied to the thighs for 1 to 2 hours. After this time, the bandages are removed, first from one thigh and applied to one arm and then from the other thigh to the other arm, kept for ½ hour and if necessary again transferred to the thighs. This procedure not only diminishes the volume of blood passing through the lungs but also increases the amount of thrombokinase and helps clotting. This method has been found serviceable in severe cases.

(5) There are a few drugs which are used to lower the blood pressure and constrict the pulmonary vessels. (a) The action of morphine in this respect has already been mentioned: Of the others (b) Inhalation of amyl nitrite has been found of some use in cases of very profuse bleeding. A capsule of 5 minims is broken in a handkerchief and inhaled. Although amyl nitrite is a vasodilator it has not been proved to have any vasodilator action on pulmonary circulation. (c) Emetine in ½ gr. dose repeated three to four times a day is advocated by some but has given indifferent results in our hands. (d) Pituitrine ½ to 1 c.c. hypodermically has also been advocated for its constricting effect on pulmonary arterioles. In one case haemoptysis became worse after its injection but our experience is not wide enough to say anything definitely on this point.

(6) We shall now deal with drugs which are supposed to increase the coagulability of blood. Of the drugs which have been given by mouth, various preparations of calcium combined with turpentine and cough sedatives are largely used. Fishberg recommends 5 to 10 grms. of table salt or 3 grms. of Sodium bromide three to four times a day. Other drugs are arrhemapectine, clauden and serum. In our experience all these drugs have little action in influencing the course of haemoptysis.

The following drugs are used subcutaneously or intravenously to control haemorrhage.

(1) Normal horse or goat serum 10 c.c., repeated, if necessary.

(2) Concentrated sera—2 to 3 c.c. every 12 hours.

(3) Thromboplastic substance—Clauden, Thromboplastin, etc., 5 to 10 c.c. intramuscularly.

(4) Intramuscular injection of auto-blood—10 to 20 c.c. repeated daily.

(5) Calcium chloride 10 per cent. solution—5 c.c. or calcium gluconate 10 per cent.—5 c.c. intravenously every 12 hours.

(6) Intravenous injection of 5 per cent. sodium citrate solution or 10 per cent. sodium chloride solution—5 to 10 c.c. with the idea of mobilising thrombokinase and thereby improving the clotting time.

(7) Congo Red—10 c.c. of a 1 per cent. solution freshly prepared, given into the vein very slowly and repeated every 6 hours.

(8) Subcutaneous injection of Oxygen 300 to 500 c.c. daily has been recently recommended by Burrel.

We have tried all these drugs and in order to determine their real value have observed the coagulation time before and after injections. It has been found that some improvement in clotting time followed some of these injections but in most cases it was not in the least affected. On the clinical side also the results have not been very encouraging. Although arrest of bleeding followed injection of one or the other drug of this group—there is hardly any one which can be regarded as specific or absolutely reliable.

(7) The best method of checking bleeding is to catch hold of the bleeding point. This principle has been utilised in the use of artificial pneumothorax in the treatment of haemoptysis. Provided the disease is unilateral and there is free pleural space, this is indeed the method of choice. 300 to 500 c.c. of air are enough and should be repeated on the day following or the day after. But the difficulty arises where the disease is bilateral or where we are not sure which side the blood is coming from. In these cases bilateral pneumothorax 200 c.c. on either side or 300 to 500 c.c. on any side have been

suggested on the ground that relaxation of both lungs which follow induction of A.P. on one side will be sufficient to control bleeding. Our experience does not warrant such an optimistic view and we have found it serviceable only in unilateral disease where the lung is capable of being collapsed. Phrenic evulsion and thoracoplasty have been suggested to gain the same object and are well worth a trial for profuse recurrent haemoptysis where a satisfactory collapse cannot be obtained by A.P. alone.

(8) To maintain nutrition of the patient proper dieting should be resorted to. Iced milk has been advocated—2 to 3 pints a day. All feeds should be given cold as heat is supposed to bring on a recurrence. In our experience, in all but severe cases, a rigid milk diet is not necessary. Pure milk does not agree with most patients and barley water and fruit juices may be conveniently added. When the bleeding is not very profuse and only retained clots are being passed semi-solid foods like pudding and porridge are helpful. Gelatin given in the shape of jelly may improve the coagulability of blood and will be welcomed by many fastidious patients. Some patients do not like iced food and we have found liquid feeds at ordinary temperature not doing any harm. Resumption of the ordinary diet should not be too far delayed as absence of proper nourishment will only help in the spread of the disease.

Cold sponging in hot weather is soothing and should be done very gently. Constipation should be corrected. Glycerine and warm water enema when the lower bowel is loaded and Epsom salt alone or combined with mag. carb. and sodii sulph. in the form of mistura alba will be found helpful.

(9) There is a group of cases whom we might call "bleeders" who bring up blood at frequent intervals inspite of all treatment. Recurrent haemoptysis if of considerable amount always means a bad prognosis. In our experience artificial pneumothorax when feasible is the only reliable treatment.

In conclusion we must again emphasise that haemoptysis is a symptom which stops by itself and may go on for a number of days inspite of all treatment and that only a few cases die as a direct result of haemoptysis. The patient should therefore be put to bed and assured that it is nothing very serious. Preliminary injection of morphine or heroin should always be given if the bleeding is profuse or the patient is very nervous. There is no drug that can excel the opiates in allaying the fear and anxiety, relieving useless cough and steadying the pulse and respiration. If necessary it may be repeated in small doses. During a bad attack inhalation of amyl nitrite and bits of ice to suck will be helpful. Bandaging of the thighs and arms should be done in all severe cases and some coagulants should be prescribed either by mouth or by injection. A.P. should be done whenever it is indicated. In short, a definite line of treatment should be adopted to gain the patient's confidence rather than with the object of obtaining some specific results.

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OBSERVATIONS ON ETIOLOGICAL FACTORS IN RHEUMATOID ARTHRITIS

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One of the greatest handicaps from which the subject of chronic arthritis laboured was a lack of homogeneity of view point as regards clinical and pathological classification. Any chronic condition manifesting itself primarily in the joint or other skeletal structures is apt to be labelled "Rheumatism" and a subtitle such as rheumatoid arthritis or osteo-arthritis or fibrositis is then accorded to it as if these ailments were slightly different manifestations of the same disease which they certainly are not. The second misfortune that has befallen over the subject has been the tendency to ascribe an infective origin to every rheumatic condition. It is true that there does exist an infective type of arthritis, presumably streptococcal which is just as definite a clinical entity as is tuberculous, syphilitic or gonorrhoeal arthritis. In these cases benefit will result when measures are taken to remove the septic focus. In no other disease has opinion regarding etiology changed so radically and so frequently as in the case of rheumatoid arthritis. Fifty years ago, it was held to be a manifestation of gout, the so called "rheumatic gout". Some ten years later it was thought to be due to filter-passing forms of tubercle bacillus. This theory has been again revived, of late by the continental authorities. In the following decade—when Osler wrote the first edition of his Text book on Medicine it was definitely held to be a neural arthropathy. Of more recent years arthritic diathesis has been postulated as fundamental cause of the disease and this view is now returning to favour after having been ousted by the theory of microbic origin.

For quite a long time infection has been considered a factor in the causation of this disease. When an acute arthritis results in a case of septicæmia or gonorrhoea, it is due to the presence and activity of the organism within the joint. Such acute infections may also initiate a chronic specific polyarthritis. In rheumatoid arthritis there may be equally clear clinical evidence of a bacterial infection as suggested by swollen, red, hot and painful joints, malaise, fever and leucocytosis. Other patients whom we place in the same category often have no signs of an inflammatory process. In the non-specific type of arthritis the joint disease is said to result from a chronic focus of infection in the teeth, tonsils, paranasal sinuses owing to the following reasons:—

1. Focal sepsis is common in rheumatoid arthritis.
2. Symptoms may be relieved by eradication of focal sepsis.
3. Patient may improve with vaccine therapy.

With the advent of this view the treatment of rheumatoid arthritis appeared very simple and logical. But the experience of little success with vaccine therapy and eradication of focal sepsis has led to the view that the true solution is further to seek. Also all efforts to culture organisms from blood and joint-fluids have proved futile. But inspite of all this there is the clinical evidence to support the contention that focal infection has an important bearing on the evolution of the disease. Up to the present the importance of the focus may be thought to rest in its role as a nidus from which the virus was disseminated throughout the body, but the new conception of the focus is of an area where the allergizing substance (bacterial antigens) is produced and whence it is spread to sensitize the joint tissues. This is quite a plausible view.

However, many factors other than infection enter into the clinical picture and determine whether a given individual with septic focus develop arthritis.

It is urged that the role of infection is an indirect one which may act vicariously with other factors

such as exhaustion, exposure to damp, childbirth and prolonged lactation.

To-day the statement can be confidently made that something approaching "physiological" outlook upon this condition has been brought in, in which the disease is seen to be a deviation of several lines or "physiology" as much as the specific result of any single stimulus. The advanced plane upon which the arthritic syndrome is now visualized depends on appreciation of a large variety of factors and influences bearing on it. Consideration of all the data now available necessitates the point of view that rheumatoid arthritis is a syndrome in which the way is usually paved long before its advent by inherited influences. The soil is, in fact, as important as the seed. Heredity is a factor in about 50 per cent. cases and the characteristics are a slight spare physique, the patient often lacking in endurance, with poor circulation. It cannot be denied that the constitutional type and symptoms apart from actual arthritis are in many cases similar to those of tuberculosis and that the same general principles are also indicated in treatment. But the detailed examination of these cases show no evidence of tubercular infection and Mantoux tuberculin test was found to be negative in all cases.

That the involvement of joints is not the only manifestation of the disease is quite apparent. Clinically pigmentation, excessive twitchings, a tendency to disordered action of heart and brisk tendon reflexes are met with and there is often that nervous instability and apprehensiveness which is associated with thyroid-adrenal imbalance. The skin shows trophic changes comprising loss of subcutaneous fat and a glazed appearance with loss of hair. Muscular wasting is so early and pronounced that it is clearly an extensive degree of genuine muscular atrophy not dependent on disuse and associated with greatly marked atrophic condition of the bones which can be demonstrated by means of skiagraphy, and this is a diagnostic feature of the disease.

Biochemical studies show lowered glucose tolerance, markedly increased erythrocyte sedimentation rate, an increase in the serum calcium, hypochlorhydria and a raised basal metabolic rate.

It must be emphatically stated therefore that rheumatoid arthritis is not only a disease of joints but a systemic one in which the joints are caught up more or less incidentally. Many an "arthritic" go through life with no arthritis at all but great discomfort in the form of myositis and fibrositis. The view or the problem outlined above is the only one which makes possible explanation of several precipitating factors that may undoubtedly usher in the disease. Conspicuous amongst these factors is the question of focal infection already referred to. Even the layman has however learnt that focal sepsis does not necessarily cause arthritis and the world is certainly amply-peopled with apparently healthy persons harbouring foci of sepsis in insidious or even massive forms. Upon prepared soil however infection may become operative as may exposure, fatigue, nervous strain and nutritional disturbance. The influence of any or all of these factors upon the prepared candidate may suffice to usher him into the melancholy brotherhood of cripples.

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relieving the sick and the wounded. Last year, in 1935, in his home at Delhi, he presided over a meeting of the Indian Medical Association, where he outlined the plan of an Ambulance Corps for working in Abyssinia. He was willing to devote his time and energy to make this move successful but his health did not permit him to take an active part.

For many many years after his return to Delhi and to his profession, he served his fellow-beings incessantly and faithfully. He was a careful observer of men and things and took infinite pains to understand the details of the aliments of his patients and to relieve them. His book *Regeneration in Man* is an ample evidence of his painstaking and methodical ways. His doors were open to all sufferers rich and poor, and any day his big verandah in Delhi house could be seen crowded with patients seeking relief and advice from the premier physician of the place. Often, he would offer shelter and comfort to the sufferers in his house, such as they could hardly get in a nursing home, and treat them with ceaseless care and attention. Inspite of failing health, he struggled out of a sense of duty, to go to Mussorie, which happened to be his last journey in life.

And who has not received from Dr. Ansari, frank cordiality and genuine welcome even at his first interview. His genial and kindly face beamed up with smile on seeing an old friend. The warmth of his greetings and the sincerity of the welcome overcame bashfulness and stiffness of new acquaintances and warmed the hearts of old intimates. He was an efficient doctor because he was a sympathetic friend; he was a genuine friend because he was a feeling physician. It was the same spring which nourished the kindliness of the physician and the genuineness of the friend.

But a man like him, could not long remain satisfied with his friends and patients. His evergrowing sympathy took into its ambit larger objectives and wider sphere. His anxiety to serve fellow beings with diseased bodies led him to a new sphere of activity. The Body Politic became his concern. He felt, as others have, before him, that race consist of individuals; there are many ailments from which individuals suffer which are really community diseases. It is difficult to think and deal with human beings in water tight compartments and for nearly twenty-five years, Dr. Ansari, inspite of his growing professional engagements, threw himself into the movement for relieving the distress of the people. To him, the whole included the units. We therefore find him working as deligently as a member of the Working Committee of the Indian National Congress as its President, as a President of the Unity Conference held in Calcutta in 1928, as he worked for the Indian Medical Association as its President. He lived a full life, he worked to his heart's content, for the country and its people, he died a glorious death while in harness.

Let us hope and trust that many of our members and readers following his footstep will lead an equally full, useful and vigorous life.

CASE NOTES

BILATERAL BREAST CANCER IN A MALE

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Venkataramanuja Naidu.—Hindu male, aged 55, was admitted into the Government Head Qrs. Hospital, Palamcottah, on 21-12-1935, for an ulcerating tumour of the size of a big lime, hard, nodular, firmly fixed to the chest wall, with some nodules in the skin up to 3 inches to the outer side of the nipple, emitting foul odour, and bleeding readily.

Pectoral and axillary glands enlarged on right side. No glandular enlargement on the left side.

General health—good, urine—nothing abnormal. Heart, lungs, spleen and liver—normal. Blood-pressure—135 mm./88 mm. of Hg.

History.—It grew gradually from youth (like that on the left side which is 1½" in diameter)—probably bilateral gynecomastia.

Ulceration was noticed 6 months ago.

He was advised excision of the right breast along with the growth.

Operation.—The right breast was operated on under general anaesthesia on 24th December, 1935. The areolar and fatty tissues and lymph glands of axilla right upto the apex were completely excised; ablation of the two pectoral muscles with 2" wide fringe of deep fascia all round the tumour (right side) —excised *en bloc*. The skin was like orange rind with many nodules upto 3" away from the nipple one long mass of growth among fibres of major pectoral muscle; deep fascia over the pit of stomach was very thick and adherent. So also near the midline and over the inner wall of right axilla. This affected area of the skin too was included in the excised mass. Muscles well developed.

30-12-1935.—Wound healing.

7-1-1936.—It was noticed that the left axillary glands were getting enlarged and tender; and the skin over the left breast was getting drawn in, and getting adherent to the gland-tissue underneath.

The suggestion of early operation on this side was accepted by the patient; and on 12-1-1936—Handley's radical operation was done on the left side.

18-1-1936.—He is progressing well, as on the previous occasion.

Anti-streptococcus serum and Iodine (neutral) solution were given I.V., on the fourth day after the first operation; he is getting eusol dressings daily.

Rectal normal saline and 10% glucose 2 to 4 pints given on the first day (21-12-1935).

The specimen of excised tissue was sent for pathological examination and report.

DISCUSSION

Sampson Handley says,—"Breast Cancer may be conceived as a gigantic "ringworm" of permeated lymphatics situated in the plane of deep fascia." Hence a knowledge of lymphatic anatony is necessary.

LYMPHATIC ANATOMY OF THE BREAST

1. Lymphatics of the breast are arranged thus:—
   (1) Subcutaneous rete in overlying skin.
   (2) Subareolar plexus—very rich.
   (3) Periductal lymphatics from areola into lobules and about acini.
   (4) Septal vessels and
   (5) Retro-mammary.

2. Lymph-drainage from the breast occurs in 3 directions:—

i. upwards and outwards into the axilla—this is the major part.
ii. inwards (from the inner part) into the anterior mediastinum and
iii. downwards (from the lower part to the abdomen.

Normally, the general trend of drainage is towards the axilla and a small amount goes into the anterior mediastinum. If drainage in these directions be blocked, then the general flow will be downwards and inwards into the abdomen. Therefore the following two chains of lymphatic glands become important in the lymphatic anatomy of the breast:—

I. Axillary and II. Internal Mammary.

I. *The Axillary chains of Lymphatic Glands*:—

(1) Humeral.—Along axillary vessels, lying internal to the vein—four or five glands. Afferents come from most of the lymphatics of the arm. efferents go to the central group, the subclavicular group, and to a gland, situated above the clavicle in the subclavian triangle.

(2) Thoracic—(a) Anterior Group and (b) Posterior Group.

(a) Anterior Group.—2 or 3 glands. Lying in in the 2nd, or 3rd intercostal space, in-front of external mammary vessels, just under cover of the lower border of petoralis major.

These are the first group of glands to be affected in breast cancer.

Afferents mainly from breast and pectoral muscles.

(b) Posterior Group.—2 or 3 glands, found behind the external mammary vessels, in the 4th or 5th intercostal space.

Afferents from the lateral thoracic wall.

Efferents from both these groups and mostly in the central group, but a few go directly into the subclavicular group.

(3) The scapular—6 or 7 glands, lie along subscapular vessels in the groove between teres major and subscapularis muscles. Afferents come mainly from scapular region.

Efferents go into humeral and Central groups.

(4) Central Group.—3 to 5, lie near base of axilla among the fat. Afferents come from the humeral, thoracic and scapular chains. No lymphatic area of their own. Efferents go into the subclavicular group.

(5) Subclavicular Group.—(Often called subclavian group—This is a wrong name as it implies relation to the subclavian vessels)—6 to 12 glands—lies at the very apex of axilla.

Situation.—Below the clavicle; above the pectoralis minor; behind the pectoral major and costocoracoid membrane; internal to the axillary vein. Internally, this chain rests on the first serration of serratus magnus.

Of very great surgical importance.

Often affected early in breast cancer.

But, obscure from view; difficult of access; and often let alone or forgotten by surgeons.

One of the glands of this group lies in front of the axillary fat which goes towards the coracoid process. Afferents mostly come from all the other chains of glands (humeral, thoracic, scapular, and central groups. Also one branch reaches this group along the acromiothoracic artery from the breast through the pectoralis major muscle. This branch may bring about invasion of this group of apical glands before any of the other chains of glands.

An important surgical fact.—Efferents from a plexus, unite into a single trunk which runs in front of the subclavian vein behind the subclavius muscle, and empties into the big veins—junction of subclavian and internal jugular veins.

One of these efferents passes into a gland in the subclavian triangle. This is one of the routes by which the supra-clavicular glands are invaded.

II. *Internal Mammary chain of Glands* (also called retrosternal, presternal, sternal, anterior mediastinal glands). 4 or 5 glands lie along the internal mammary vessels, ½ in. outside the margin of the sternum, behind the anterior intercostal membrane and the internal intercostal muscle; in front of the internal mammary vessels, and the pleura which is very thin. In the 3rd intercostal space, the gland lies in front of the triangularis sterni muscle. This chain has 4 or 5 glands—one each in the 1st, 2nd, 3rd and 5th or 6th spaces.

This chain is of much surgical and tragical importance. The afferents to this chain are the efferents from the pectoral lymphatic plexus, (which is directly connected with the breast) and pass along the perforating branches of the internal mammary vessels. Efferents from this chain unite into a single trunk which empties itself into the anterior surface of the junction of the internal jugular and subclavian veins.

Often one of the efferents is tributary to the gland situated in the subclavian triangle, lying just superficial to the subclavian artery. Gland infection of the neck may arise by this route also.

Therefore gland invasion of the neck may arise by one or more of the following routes:—

i. an efferent from the humeral group of axillary glands.

ii. an afferent from the subclavicular chain.

iii. an afferent from the internal mammary chain.

Here 'afferent' means an afferent to the lymph gland in the subclavian triangle.

Mode of Spread of Cancer of Breast

Very important to know this, since correct treatment is based on it, and since excision of the growth is the only method available to most surgeons.

Formerly the "embolic" or water-carriage theory of dissemination, i.e. the cancer calls get loose from the primary growth and are swept along like drift-wood by the blood or lymph-stream until arrested in some narrow channel. Even to-day this mode of invasion is accepted as true in some stages, e.g. early invasion of the axillary lymphatic glands.

Now-a-days, Handley's "permeation" or "centrifugal spread" theory i.e. beginning from the primary growth it goes on spreading in a larger and larger circle, invading in a centrifugal manner, e.g., secondary deposits in skin and bones. At a varying distance upto 10 inches from the primary growth, a narrow and elusive zone of a few millimetres wide, is found upon the deep fascia where its lymphatic vessels are choked by cancer cells. This zone is a section of a large circle which forms the true growing edge of cancer—"the microscopic growing edge". Its detection by Handley is the basis of his permeation theory of dissemination, and of modern surgery of breast cancer. By 'permeation' is meant the choking up of the lymph vessels by the growth in continuity of cancer cells along them.

It is explained thus: There is a ceaseless urge in the live cancer cells to proliferate. The lumen of the lymphatic vessels offers no resistance. Hence the great proliferative pressure of the epithelium at the primary focus urges the cancer cells into the lymphatic vessels—along which they grow in continuous lines. When the cancer cells reach the first lymphatic plexus into which the lymph of the breast drains, viz., the fascial plexus lying on the pectoralis major muscle, an ever-enlarging circle of the area of this fascial plexus gets involved; Its channels get filled up with lines of cancer cells, which send out off-shoots into the adjoining muscular and cutaneous layers. Sooner or later carcinoma cells find themselves in serous cavities and cause rapid visceral dissemination and death of the patient.

This is a fugitive process; and so, has long escaped observation. Handley has also found a protective or curative process of fibrosis and obliteration of the choked lymphatics. This permeation is a slow continuous centrifugal spread, leaving behind it only an almost undetectable net-work of fibrosed 'cured' lymphatics, or an occasional isolated secondary nodule which shows the failure of the curative process.

Handley's Permeation Theory

Handley has pointed out that a continuous lymphatic plexus occurs in the deep fascia all over the body. Thus, the plexus over the pectoralis major is continuous with that over the rectus and other abdominal muscles, and it is through this plexus that malignant disease extends to the abdomen and inguinal regions.

Thus the spread occurs circumferentially but more rapidly upwards and outwards in the normal direction of lymph flow than inwards and downwards. Hence a wide-spread area of the deep fascia becomes eventually invaded, and the lymph glands of the axilla and perhaps of the mediastinum are reached and involved. Lymph-flow in the upward direction is now arrested, and the flow turns downwards and inwards, causing carcinomatosis in the abdominal and inguinal regions, i.e., in time the inguinal glands are invaded, while through the falciform ligament the liver and portal glands, and trans-peritoneally the other abdominal viscera may become the seat of secondary carcinoma (*vide* epigastric invasion, *infra*).

Lymphatic oedema and *Cancer en cuirasse*: When this process of permeation has reached the anatomical limits of the breast, there will be an arrest of lymph drainage from the overlying skin (as, at the periphery of the base of the breast, the fascial lymphatic plexus is all blocked by the permeated carcinomatous cells). Then the skin passes into a state of lymphatic oedema.

Handley says that this is the cause of the *peau d' orange*, so often seen in wide-spread cancer, and in Paget's disease of the nipple.

When permeation involves the intrinsic lymphatics of the skin itself, the indurative infiltration known as *cancer en cuirasse* results.

Handley's 'permeation' process is not of course the only mode of spread of cancer either of breast or elsewhere in the body. Embolic spread to the primary lymph-glands cannot be denied. Many observers believe that lymphatic and hæmatogenous embolism is also a common process of secondary carcinomatosis.

But Handley's 'permeation' theory is very useful as operations based on it have given very good results.

Summary

Cancer spreads in the following ways:—

(1) By lymphatic embolism.

(2) By lymphatic permeation.

(3) By direct spread, i.e. in contiguity, and

(4) through the blood-stream.

In (1) and (2) the corresponding lymphatic glands are secondarily invaded. In (3) the skin, muscles, chest-wall and pleura are invaded, while in (4) the spread is far-flung but chiefly affects bones (notably the vertebræ, upper ends of humerus and femur) and the abdominal viscera.

Operative Principles

The following principles may be formulated from the permeation theory:—

1. The deep fascia which contains the "microscopic growing edge of cancer" should be excised widely as it contains the lymphatic plexus which forms the highway for the spread of cancer.

2. The area of deep fascia removed must be circular in outline, since permeation spreads about equally in all directions from the primary growth.

3. The primary growth must be always the centre of the area of deep fascia removed.

4. The skin and muscles being secondarily involved over a smaller area, and less widely than the deep fascia, the removal of a smaller area of the skin and muscles will be enough.

5. The primary lymphatic glands must be removed in continuity with the primary growth, since emboli of cancer-cells reach them early along the trunk lymphatics.

Epigastric Invasion

It is naturally supposed and even believed that the first serous cavity which cancer permeation always reaches is the pleural cavity, since it directly underlies the primary growth, and that the more remote peritoneal cavity is invaded only subsequently. But this is not so. In many cases—(12% of all cases of carcinoma of the breast) secondary deposits were found in the abdomen alone, while the pleural cavity was quite free from metastatic deposits. If the spread of cancer were by a process of embolism, the cancer cells should have affected the lungs first as they must pass through the pulmonary circulation before they reach the peritoneal cavity.

This is proof that the embolic process is neither common nor correct, but that permeation is the common and correct process.

This purely abdominal spread is caused by the direct infiltration of the abdominal parietes in the epigastric region just below the xiphoid cartilage.

When the circle of fascial permeation has spread about an inch beyond the circumference of the breast, the barrier between the cancer-choked lymphatics of the fascial plexus just below the xiphoid cartilage in the middle line, and the extra-peritoneal fatty tissue of the abdomen, is only the thin single layer of tissue, *viz.*, the linea alba.

From the epigastric parietal peritoneum the disease spreads to the adjacent convex surface of the liver or to the portal glands, and the cancer-cells often fall down into the pelvic *cul de sac* through the peritoneal cavity by mere gravitation, and cause deposits in the pelvis.

As epigastric invasion was not known before; the older generation of surgeons concentrated all their attention on the wide excision of the growth from the thoracic parietes and never attended to the epigastric region. But as invasion of the peritoneal sac and viscera is the earlier, commoner and more important occurrence, the removal of the upper part of the anterior layer of the rectus sheath which is within the 10 inches diameter of deep fascia, is essential, as the fascial lymphatic plexus lies upon it, to save the invasion of the abdominal cavity.

Contra-Indications to Operation

Operation must be refused:—

1. If the bony thorax has been invaded by the primary growth.
2. If the skin has nodules of growth or infiltration *cancer en cuirasse* situated more than 2 or 3 inches from the primary growth.
3. If the primary growth has extended to the opposite breast or axilla.
4. If there is a fixed mass of growth in the axilla.
5. If there is edema of the arm.
6. If the supraclavicular glands are enlarged, and *fixed*.
7. If there is evidence of bony or visceral metastasis.
8. If there is incurable constitutional disease, (e.g. tuberculosis, diabetes) likely to be fatal within a short period, or to cause post-operative fatality.
9. If the growth is of the acute fulminating type.
10. In old age, if the growth is hard and chronic, i.e. internal and remote spread is very likely to have been present for some time.

If there are no signs of internal dissemination, some otherwise in-operable or doubtful cases may be treated with buried radium. If the signs point

to limited dissemination in the case of massive ulcerated and infected growths, ablation and implantation of radium should be tried.

SCALPEL-EXCISION

The modern operation illustrates the application of Handley's principles, as it is based on his permeation theory.

1. Skin incision, about 4" in diameter, round the growth, and accurately centred on the growth.

2. Skin flaps raised all round to a width of 3" through the mid-plane of subcutaneous fat.

3. Circle of deep fascia—10" in diameter accurately centred on the primary growth: Incise through the deeper subcutaneous fat down to the muscles; its periphery should be close to the base of the skinflaps.

4. This circular sheet of deeper subcutaneous fat and deep fascia containing the presumably permeated area of the fascial lymphatic plexus is now lifted from the subjacent muscles for some distance from the periphery towards its centre, so as to form a wide marginal fringe of the main mass. Breast, pectoral muscles, and axillary contents which should be finally removed in one lump. This fringe of deep fascia should be raised all round, until the margin of the great pectoral muscle, the margin of the outlet of axilla, or the edge of the breast—as the case may be.

5. Muscles. (a) Great pectoral muscle. In early cases, or where the growth is situated very low down in the breast, the clavicular part of the muscles may be saved, and only the sternal part removed. In all other cases, excise, the whole muscle as the lymphatics pass through it into the thoracic wall and mediastinum.

(b) Minor pectoral muscle—must be excised in all but very early cases. This also facilitates the satisfactory removal of all the fat and lymphatic vessels and glands at the very apex of the axilla, which is a very important step in the radical operation.

5. Copious irrigation of the whole area with two to four pints of 1/2000 hot perchloride lotion, to wash away any loose cancer cells and to prevent implantation.

6. Flush it with warm saline lotion, and get rid of the mercury lotion.

7. As a rule, imbed radium needles, at the end of the operation, in those situations beyond the range of the operation where experience has shown that recurrence is most likely to take place. Most of the recurrences seen after modern operation are found in lymphatic glands related only indirectly with the breast, *viz.*, (a) in the supraclavicular, and (b) anterior mediastinal groups of glands.

(a) The enlargement of the gland overlying the subclavian artery at the lower and inner angle of the posterior triangle.

(b) The appearance of nodules at the inner end of the 1st, 2nd, or 3rd intercostal spaces of the same side as the primary growth, is the first obvious sign of an invasion of these glands, which, be it noted, must have been present microscopically at the time of the original operation.

Therefore it is said to be a safe prophylactic measure against recurrence, to imbed radium needles, as a rule, in (1) the inner and lower angle of the posterior triangle, i.e., into the subclavian triangle, and (2) at the sternal ends of the 1st, 2nd, and 3rd intercostal spaces.

This must be done before the wound is sutured up; and it does neither prolong, nor add to the risk of the operation.

Excision with the diathermy knife or deep X-radiation, or radium therapy is possible only for those surgeons who are fortunate in their possession.

COMMON FAULTS IN THE OPERATION

Failure to apply the known facts of dissemination by permeation.

This is seen in:—

(i) Removal of an unnecessarily large area of skin.

(ii) Removal of an inadequate area of deep fascia.

(iii) Failure to centre the operation strictly upon the primary growth according to its varying situation.

(iv) Failure to reach the apex of the axilla, and to remove fully the subclavicular glands or apex glands.

Other and utterly inexcusable faults are, though rare:—

(i) Obviously inadequate operations. *e.g.*, limiting the resection to the removal of the portion of breast containing the growth only.

(ii) Omission to remove the pectoral muscles.

The chief danger of this faculty surgery is that the patient is easily contented, the growth recurs soon after, and the patient does not go to the surgeon until the recurrence is massive and too late, for human help.

CANCER OF THE MALE BREAST

About three-fourths of all the tumours of the breast are carcinomatous. About 1% of breast cancer occurs in males usually after 50 years of age.

In the male the breast tissue is much less in amount. The vascular supply is much smaller. The primary growth very often remains smaller in size, and apparently insignificant compared to the

female. Any way, it is not usually suspected or diagnosed as early as in the female. Therefore until it ulcerates, no notice is taken of it, i.e., male carcinoma comes to the surgeon at a later stage and the liability to recurrence after operation is more often than in carcinoma of the female. It grows more slowly, but ulcerates rather sooner, than in the female. The process of permeation has a much shorter distance to travel before it reaches the fascial lymphatic plexus which is subjacent to the breast.

Therefore, however, small the primary growth, wide-spread permeation of the fascial plexus must be expected, especially if the growth had ulcerated.

Ignoring these facts, many surgeons restrict the range of their operation for the male cancer which they would admit to be hopelessly inadequate and wrong for the female cancer.

OPERATION (CANCER, MALE BREAST).

The same cancer; the same permeation process; and therefore the same scheme and range of radical excision should be adopted for the rare male, as for the most common female cancer—(a) the 4" circle of skin, and (b) 10" circle of deep fascia must be excised (including the epigastric region of course), and (c) the complete ablation of both the pectoral muscles must be done; while (d) the axillary glands and fat and the apex glands must be removed fully in one mass with the primary growth, though owing to the absence of subcutaneous fat the raising of the skinflaps is more difficult and delicate than in the female.

Owing to the absence of 'slack', the skinflaps cannot be brought together, and skin-grafting should be done at the end of the operation.

EFFECTS OF CHAMELEON-BITE CURED BY ADRENALIN

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Madras.

On 28-3-1936 at 8 p. m. I was asked to see a patient (Mrs. Sampoornammal, Kondithope,) in a collapsed condition after chameleon-bite. The extremities of the patient were cold and breathing was also imperceptible. I thought of only intracardiac adrenalin when I could not feel the pulse in the radials. Immediately I gave half c.c. of Adrenalin (P. D. & Co.) intracardially, and induced also artificial respiration. Thereafter in 15 minutes the patient was revived.

Further stimulant treatment was continued.

MODERN THERAPY IN GENERAL PRACTICE

MODERN METHODS IN THE TREATMENT OF BURNS

W. C. WILSON, F.R.C.S.E.

The tannic acid treatment of burns and scalds has been developed and modified in recent years to an extent which makes some account of present methods desirable. This article deals mainly with the practical details of therapy. Some consideration, however, must be given to the clinical course and pathology upon which treatment is based. The consideration will be brief, since these features have been discussed in a recent article which contains also short account of an investigation now nearing completion.

Clinical Course

The general condition.—The course of an extensive burn (i.e. one involving a quarter or more of the surface of the body) can be divided into five stages: (1) initial shock; (2) secondary shock; (3) acute toxæmia; (4) sepsis; and (5) healing. Initial shock and secondary shock, though similar in clinical manifestations, are widely different in etiology and prognostic significance, and an appreciation of this difference is necessary for proper treatment. Initial shock is a consequence of an upset of the vasomotor mechanism by nervous impulses from the injured area. It is uncommon, tending to pass off spontaneously or when pain is relieved and is rarely serious. It appears immediately after infliction of the injury. The other clinical features like those of secondary shock, are too well known to require description. Secondary shock, is associated with a marked diminution of blood volume, probably due to loss of plasma; the exact mechanism of the initiating plasma-loss has not yet been determined. Its onset is between three and six hours after injury. In contrast to initial shock it is common, especially after extensive burns, and it is a progressive and dangerous condition which requires active treatment.

Acute taxæmia, a condition distinct from secondary shock, is caused by the action of toxic principles which have been formed by autolysis of burned tissue and absorbed into the circulation. Other explanations of the symptoms in this phase have been suggested in recent years such as concentration of the blood, fluid loss in the burned area, early bacterial infection and changes in blood chemistry. It can be affirmed, however, that fulminating toxæmia may occur in the absence of any of these factors, and moreover, there is good evidence for toxin formation in burned tissues. Acute toxaemia may appear at any time between six and fifty hours after injury. The chief features are: a high sustained temperature; rapid pulse and respiration; dusky or greyish-cyanotic skin; restlessness and delirium, or drowsiness and apathy; vomiting, sometimes of altered blood; generalized convulsions, occasionally, in infants. The leucocyte count may be unaltered, and the level of the systolic blood-pressure may remain near normal until the later stages when the circulation fails. Then coma supervenes and death occurs usually about seventy hours after injury.

The stage of sepsis is associated with local and general signs of bacterial infection. With proper treatment these are rarely present before the fifth day. The usual invader is the hæmolytic streptococcus, and deep burns over relatively non-vascular skin areas, such as the trunk, are peculiarly susceptible to infection.

The local condition.—Injury by substances at high temperatures produces instant detachment of the epidermis, while exposure to more moderate temperatures cause blistering which takes some time to develop. If the injury is superficial, the surface exposed after removal of the epidermis has a red inflamed aspect. When the burn has penetrated more deeply, the epidermis has a brown "charred" appearance and the subjacent tissues are indurated, pale and apparently non-vascular. By the time the patient has reached hospital much of the epidermis, loosened by instant detachment or subsequent blistering, has usually been rubbed off and the remainder can readily be removed. At

the edges of the burn, however, there is an area (first-degree area) of reddened devitalized epidermis of variable extent, which remains attached; some of it becomes raised by slow formation of blisters during the first few days.

The course of a burned area treated with tannic acid will be described. When tannic acid has been applied to the raw surface a coagulum forms which, after some hours, becomes firm, dry and of a brownish-black colour. In superficial lesions the epidermis grows under cover of the protective coagulum, which becomes loosened at the edges and can be peeled off gradually after ten to twelve days. The surface left after removal may be almost entirely healed. In deeper lesions granulation tissue grows beneath the coagulum, which after a week or longer, becomes partly seperated from living tissues by an intervening layer of inspissated yellow-coloured serum. A common error is to accept the presence of this layer as evidence of gross infection. After about fourteen days the coagulum can usually be easily removed.

Of complicating features late blistering has already been mentioned. The fluid from the blisters may contain organisms and pus cells. Owing to oedema of the tissues and contraction of the dry coagulated layer some separation of the coagulum at the edges may occur during the first few days, and excessive movement may produce cracks or fissures over flexures. If the coagulum is not contantly exposed to the air, and particularly if it is subjected to pressure (as when the patient lies on it), it inevitably becomes soft and sodden and may become rubbed off. These features have an obvious application to the prevention of bacterial invasion of the burned area. A rare complication is obstruction of the lymphatic or venous return of a limb by an encircling coagulum; the consequence is well-marked oedema. After removal of the coagulum, and provided that no gross infection is present, the condition is one of a healed or healing sore.

Treatment

The principles of treatment, as based on the pathological factor in each stage, will be considered first.

Initial shock, if present, is easily abolished by sedatives and warmth. The causation and proper treatment of the secondary shock of wounds and severe trauma are still a debated and controversial question. Whatever may be true for secondary traumatic shock, experience has fortunately proved that the secondary shock of burns can often be prevented and even when developed can almost always be overcome. The principles are to maintain or restore the blood pressure level by intravenous infusion of a colloidal solution, and to minimize further loss of plasma by immediate coagulation of the burned area. It should be noted that a colloidal solution is essential, intravenous infusion of normal saline or dextrose-saline solution will do more harm than good. The most convenient and readily available colloidal solution is 6 per cent. gum saline and, in contrast to the case of secondary traumatic shock, it is to be preferred to blood in the treatment of secondary shock after burns. If secondary shock has developed, immediate and active measures are necessary since severe degrees of secondary shock will not disappear spontaneously.

Acute toxæmia is usually prevented or minimized by coagulation of the injured surface, although in the most extensive lesions coagulation is not always efficacious. For several years the author has used a 20 per cent. solution of tannic acid, which induces immediate coagulation. There is a possibility, though no definite evidence on the point is available, that coagulation by a strong solution is less uniform and less penetrating than that by a weak solution (2½ or 5 per cent.), and thus the use of the strong solution may permit of absorption of toxins. The strong solution, however, has so many practical advantages over the weak that the author will continue to recommend its use until evidence of its failure to penetrate is forthcoming. Unfortunately, established acute toxæmia resists all therapeutic measures at present available. An antitoxic serum, it is to be hoped, will be prepared in the future. In order to prevent bacterial infection some antiseptic is applied to the burned area during local treatment and, in certain circumstances, at frequent intervals during the subsequent course.

Treatment of an Extensive Burn

The details of treatment given below are those which experience has shown to be well adapted to the care of very extensive burning injuries. Other modifications of the tannic acid treatment have been

described, and are no doubt valuable practical methods. Mitchiner, for example, has devised a method which is associated with a most impressive mortality rate. No comparison, however, will be made here with alternative methods.

Immediate treatment, (a) General.—While preparations for local treatment are in progress the patient is kept warm in bed and morphine is administered. The type and degree of shock are determined by estimating the blood-pressure at short intervals over a period of about thirty minutes. The earliest sign of secondary shock is a lowered pulse-pressure with or without a fall in systolic level. In an adult a pulse-pressure of less than 30 mm. Hg. especially if the systolic level is less than 100 mm. Hg. indicates early secondary shock . Lower levels are found in well-developed shock and at later stages sometimes no record can be obtained. A rapid feeble pulse indicates advanced shock. The appearance of the patient is often of little help in estimating shock, particularly if the face is burned. Rapid shallow respiration,, which in itself induces anoxaemia should be immediately treated by administering a mixture of 5 to 7 per cent. CO_2 in air or oxygen. According to the degree of shock present, 600 to 1,000 c.cm. of 6 per cent. gum-saline are run slowly into a vein.

(b) Local treatment.—Experience has shown that local treatment of a large area of burned tissue is liable to be followed by a fall in blood pressure of a more or less marked degree. The cause may be afferent nerve impulses, additional plasma loss at the site of injury, or both. The fall can be gravely accentuated by undue exposure, by coarse methods of cleansing, such as scrubbing the raw surface and applying irritating antiseptics, and also by depressant anaesthetics. The method of local treatment is adapted accordingly.

The procedure is carried out as for a major operation in a well-warmed surgical operating theatre and employing general anaesthesia. The anaesthetic of choice is nitrous oxide, oxygen and a small proportion of ether, which is necessary if cyanosis is to be rigidly excluded. To this mixture 3 per cent. CO_2 should be added to promote oxygenation of the blood and abolish shallow respiration. The burned area is treated in sections, only a limited portion being uncovered at a time. With gauze moistened in warm saline solution all detached or raised epidermis is wiped off and the raw surface gently cleansed. Special attention is then directed to the edges and as much reddened epidermis as can be separated without undue trauma is similarly removed. An exception to the rule of removal of epidermis may be made in the case of the fingers and palms where the very vascular raw surfaces continue for some hours to exude serum, which the coagulating action of tannic acid, and where removal of epidermis may be followed by considerable pain. The writer is content as a rule merely to snip the blisters in these parts and to apply a dressing of gauze soaked in tannic acid. Twenty per cent. tannic acid solution is then painted over the raw surface by gauze previously soaked in the solution. The immediate coagulating effect can often be observed. An antiseptic should be incorporated in the coagulating solution or applied immediately after the tannic acid; 1 in 1,000 acriflavine and 1 per cent. aqueous solution of gentian violet are the most useful. A current of hot air from an electric dryer is then used to dry the coagulum. The local treatment is thus complete.

After treatment, (a) General.—If the injury is extensive, local treatment should always be followed immediately by an intravenous infusion of gum-saline. The blood-pressure should be estimated at frequent intervals during the first twenty-four hours and any severe fall combated by intravenous gum-saline. Very rarely will more than one or two infusions be required. If the blood-pressure is at or near the normal level at twenty-four hours, nothing is to be feared from secondary shock.

A generous allowance of fluid by the mouth and saline solution per rectum should be given in order to allay thirst, which may be troublesome during the first few days. There is no necessity to "force" fluids. Intravenous infusions, however, are required when vomiting is frequent—a sometimes ominous complication.

No measures at present available are definitely effective against established acute toxæmia. In desperate cases of exsanguination, transfusion may be tried. It has been recommended as a part of the general treatment of bacterial infection that scarlatinal streptococcus anti-serum should administered from an early stage. Inflammatory changes in the respiratory passages may follow inhalation of very hot air at the time of injury. If this complication is suspected, the use of the steam tent should be instituted from the commencement of treatment. The possibility of unusual complications should also be borne in mind. Toxic jaundice may appear about the fifth day, and hæmorrhage from a duodenal ulcer at any time after the tenth day.

(b) Local.—Good results depend upon proper after-care of the burned area, and particularly on careful attention to several points of detail.

The coagulum is exposed to the air from the beginning. Some form of "cage" is necessary to support the bed-clothes and to supply artificial heat. The temperature under the cage must be carefully regulated, since chilling and overheating are both very undesirable. The coagulum must be protected from pressure, trauma and soiling. In many cases of extensive burns the patient necessarily lies on some portion of the coagulum, which must therefore receive particular attention. It should be covered with a thick layer of sterile gauze and the position should be changed at intervals to allow the part to be sprayed with gentian violet and dried.

Young children and even adults can often be secured in such a position that no part of the coagulum is pressed upon or traumatized. Undue movement must be avoided, otherwise cracking or fissuring of the coagulum will occur. Late blisters are treated by removal of epidermis and tanning. Any raw surfaces exposed during the first week by separation or fissuring of the coagulum should be sprayed twice daily with gentian violet or covered by gauze moistened with alcohol. If marked oedema in a limb is produced by an encircling coagulum, this should be incised longitudinally and the raw surface similarly treated.

During the second week any raw surface exposed by separation of the coagulum should, if clean, be covered by an ointment dressing, namely, oil of eucalyptus, 1 part; zinc oxide, 2 parts; vaseline, 4 to 8 parts. Infected raw surfaces are treated by fomentations or antiseptic dressings. The coagulum should be left till it strips off easily; as a general rule it should be removed completely by the end of the second week.

Severe sepsis demands special treatment. The general condition is the best indication of bacterial infection, and well-marked systemic disturbances during the second week call for active measures. The coagulum must be removed from septic areas and these are then treated as infected wounds. If the septic process is localized, it may be possible to remove the coagulum from septic areas only while leaving the rest of the coagulum attached. Coagulum adherent to infected areas is softened by applying hypertonic saline dressings over it for about twelve hours; only hypertonic solutions are permissible, since any other wet dressings applied over the coagulum may produce severe and fatal toxæmia. Occasionally it is convenient to administer a general anæsthetic and then to cut away adherent coagulum together with deep sloughs. After infection has been overcome an ointment dressing is applied. Healing of large granulating surfaces can be accelerated by pinch grafting.

Treatment of Small Burns

Small burns can be treated in the patient's own home or at the out-patient department of a hospital. Several modifications of the tannic acid method have been described for these conditions. The following is preferred, in which a tannic acid jelly, of which a number are advertised, is employed as a dressing. The area is prepared, as described for extensive burns, and then covered by a dressing of sterile gauze, on which the jelly has been thickly spread. The dressing is protected by cotton wool and a bandage. The area is inspected a few days later and a fresh dressing of tannic acid jelly applied and retained for about ten days. The usual principles of treatment are observed throughout.

Summary

The clinical course of extensive burns and the cause of death at different stages have been discussed briefly, and a method of treatment has been described which is designed to provide adequate measures against the chief dangers, namely, secondary shock, acute toxæmia and sepsis. Experience has proved that secondary shock, even when severe, can usually be overcome and that very few cases of burns, if thus treated, die within sixty hours of injury. The treatment is usually, though not invariably, successful in preventing or minimizing acute toxæmia and in controlling sepsis.

—(*The Practitioner*, April, 1936, pp. 394—403).

CURRENT MEDICAL LITERATURE.

MEDICINE

Anaemia in Cancer of Stomach

MAGENSEN (*Hospitalstidende*, January 28, 1936, page 85) observes that 75 cases of gastric cancer showed an average haemoglobin of 72·8%. In 31% of the cases there was no anaemia and he concludes that the presence of a normal percentage of haemoglobin is without significance in the diagnosis of cancer of the stomach and he holds that under-nutrition and cessation of anti-anaemic function of the stomach are more responsible for the anaemia than the achylia or the occult haemorrhage. In the treatment of anaemia in cancer of the stomach he lays great stress on (1) the best possible nutrition quantitatively and qualitatively (2) direct anti-anaemic treatment with iron or with liver, and stomach or both, the choice being determined by haematological study.

The Use of Papaverine in Acute Arterial Occlusions

TAKATS (*Jour. Amer. Med. Assoc.* March 21, 1936, page 1003) reports a case of pulmonary embolism, another of acute peripheral thrombosis and 3 cases of peripheral embolism. All of them showed marked improvement of circulation following the intravenous use of papaverine in 1/6 gr. doses. As no stable solutions of papaverine are available papaverine should be kept in capsule and may be readily dissolved in normal saline and boiled before being used. The drug the author writes is an active antispasmodic and is quite harmless in doses recommended and to obtain the maximum benefit it should be injected in the first 6 hours.

Treatment of Spastic Colon

HARDY (*B. M. J.* March 7, 1936, page 487) discusses the treatment of spastic colon under 3 headings, *viz.*, (1) treatment of nervous instability; (2) treatment of general health; (3) treatment of the function of the colon. The first two items can be dealt with proper spacing of rest, occupation and recreation planned to suit the degree of fatigue and mode of life of the patient. In the treatment of the function of the colon liquid paraffin should be used for the relief of constipation and antispasmodic and sedative drugs for the relief of abdominal discomfort. The following prescriptions are of value:—

Re:	Soda Bromide ...	...	gr. 5
	Tincture Belladonna	...	m. 5
	Aqua Chloroform	...	½ ounce

To be taken thrice daily after meals.

or *Re:*	Liquor Ferri perchlor	...	m. 15
	Liquor Hydrarg perchlor	...	m. 15
	Tinct Hyoscyamus	...	m. 15
	Syrup Aurantii ...	...	dr. 1
	Aqua ...	upto	½ ounce

A tablespoonful to be taken 3 times daily 10 minutes before meals.

Is Use of Insulin Indicated In Elderly Diabetics with Coronary Sclerosis?

COLLENS, STOLIARSKY AND NETZER (*Amer. Jour. Med. Sci.* April, 1936, page 503-511) discussed the use of insulin is diabetics suffering from angina pectoris and coronary sclerosis and critically analysed the question whether there is adequate justification for the feeling that insulin in contra-indicated in the treatment of elderly diabetics. They treated very successfully 10 diabetic patients suffering from angina pectoris and coronary sclerosis by insulin injection taking extra precaution to prevent hypoglycaemic reaction. The authors hold that insulin like other pharmacologic substances may be a toxic or a therapeutic agent depending on the way it is used. They report that it has a remarkable therapeutic value for the relief of cardiac pain of the diabetic.

Acetyl-B-Methylcholine as a Vasodilating Agent

GOLDSMITH (*Annals of Int. Med.* March 1936, page 1196-1201) writes that he administered acetyl-B-methycholine orally to 29 patients in doses of 50 to 1500 mg. and found it a very good vasodilating agent in all the cases except one. His cases included

Raynaud's disease and scleroderma 8, thromboangiitis obliterans 7, arteriosclerosis 5, hypertension 4 and miscellaneous 5, and the average maximal rise in temperature of the skin of the digits was in this series 5·82°C. The adequate dose was found to be 1000-1500 mg. and this may be repeated every 3 or 4 hours to maintain the action and no ill effects had been found even when 3 to 4·5 gm. was administered in 24 hours. The drug when given orally does not produce a lowering of blood-pressure or any increase in pulse rate as is the case when it is given hypodermically. The additional effects produced by the drugs are (1) a sensation of warmth localised or generalised in 50% of the cases, (2) flushing of the face in 25%, (3) increased perspiration in 20%, (4) a mild laxative effect. The author concludes that the drug has a definite vasodilating effect, lasting for a prolonged period.

Treatment of Narcolepsy with Benzedrine Sulphate

ULRICH, TRAPP AND VIDGOFF (*Annals. of Int. Med.* March, 1936, page 1213-21) reports 6 cases of narcolepsy treated successfully with oral administration of benzedrine sulphate in daily doses of 20 to 50 mg. The drug had no significant deleterious effect except that in one case it produced slight temporary gastro-intestinal irritation and in another mild anorexia. The authors observe that the disease may occur at any age, that all the patients felt sleepy under monotonous actions or influences, that 3 of the patients had the trouble in warm weather, 2 showed no seasonal influence and only one was ill on cold days, that unpleasant dreams were observed by 4 of the cases and cataleptic seizures in 5 and that the basal metabolic rate was lower in all the cases.

Injurious Effects of Sodium Chloride and their Prevention

KEINING AND HOFF. (*Arch. Derm. and Syph.* November, 1936, page 739) write that sodium chloride and sodium salts have deleterious effects in urticaria, eczema, neuridermatitis and dishydrotic eczema. These ill effects can be averted by buffering the sodium ions by introducing into the system ions of potassium,. magnesium and calcium. These must be balanced according to the molecular weights; for 100 molecules of Na, one must allow upto 5 molecules of K, 2·5 of Ca, and 6 of Mg.

Treatment of Lupus Erythematosus with Gold compounds

WRIGHT (*Archives of Derm. and Syph.*, March, 1936, page 413-429) reports that he treated successfully 76 patients suffering from lupus erythematosus with gold compounds chiefly with gold and sodium thiosulphate. The results are as follows:—37% were cured, 34% were almost cured or greatly improved, 17% were improved moderately or slightly and 12% failed to respond to the treatment. Of the cases taken as cured 2 have been well with no relapse for 7 years, 2 for 6 years, 2 for 5 years, 3 for 4 years. The amount of gold and sodium thiosulphate required for cure varied from a minimum of 12 mg. in one patient to a maximum of 2,500 mg. in another. 17%of the cases suffered one or more relapse. In some of the relapse cases improvement followed further treatment but many refused to have any further course of injection. The drug produced reaction in 24% cases with death in only one, the commonest type of reaction being scarlatiniform dermatitis occurring in 8 cases.

A Study of 57 cases of Bronchogenic Carcinoma

ROSEDALE AND MCKAY (*Amer. Journal of Cencer*, March, 1936, page 493) write that in the past ten years 466 cases of malignant disease were autopsied at Buffalo City Hospital and of these 7·5% were bronchogenic carcinomas. The most frequent situation of the tumors was at or near the lung hilus, tumors commonly taking origin in a first order bronchus and the characteristic lesion is usually single massive one in contrast to the multiple bilateral peripheral nodules of metastatic tumors. The tumor may metastasize widely and the clinical symptoms produced stimulate closely other diseases of the lungs e. g. tuberculosis, pneumoconiosis bronchiectasis. The X-ray findings, the presence of pulmonary and pleural pathology and biopsy after bronchoscopy will help in coming to a definite diagnosis. The authors conclude that as bronchogenic carcinoma occurs frequently it should be taken into consideration in the differential diagnosis of all obscure chest diseases in persons over thirty years of age.

Calcium Medication in Serum Sickness

CURPHEY AND SOLOMON (*New England Jour. Med.* January 23, 1936, page 150) report the result obtained on the comparative study made on patients of serum sickness treated with calcium gluconate intravenously and intramuscularly on the one hand and adrenaline, ephedrine by mouth and topical application of sedatives such as calamine lotion, phenol etc. on the other. In the patients treated with calcium the rash lasted on average 2·9 days and itching, arthralgia, headache, nausea etc. 3·3 days whereas in control cases the rash lasted 4·5 days and other symptoms 7·1 days. The authors believe that the unfavourable reports made sometimes as regards the use of calcium therapy in serum sickness is due to insufficient administration of readily assimilable calcium preparation. The authors advise 10 to 20 c.c. of 20% calcium gluconate warmed to body temperature to be injected intravenously very slowly as soon as the rash appears to be followed by 10 c.c. of 10% calcium gluconate intramuscularly every 12 hours until subsidence of the rash and other symptoms.

SURGERY

Cases of Situs Inversus Totalis and of Dextrocardia Discovered by X-ray among Filipinos

FRANCISCO AND ONGPIN (*Jour. of Philipine Islands Med. Asson.* March 1936, page 133) write that a total of 32 cases of situs inversus totalis (total transposition of the viscera) and 4 cases of dextrocardia were discovered by the Travelling X-ray Clinic of the Bureau of Health among 126,858 Filipinos examined from July, 1933 to Oct. 1935, about one such anomaly to every 3,500 persons. Four cases of situs inversus totalis were found in a total of 10,000 autopsies done at the City Morgue of Manila and at the morgue of San Lazaro Hospital giving a ratio of one case of situs inversus totalis to every 2, 500 autopsies. These findings reveal that about 10 times as many cases of situs inversus totalis occur among Filipinos as among Americans and Europeans. Majority of the cases were students and most of them were in good health. The authors insist on careful and detailed physical examination of all patients which alone will reveal the existence of such an anomaly and the author writes that its recognition is of great significance to individuals with diseased condition requiring surgical intervenion.

Treatment of Intracranial Trauma

RADFORD (*South African Med. Journ.* March 14, 1936, page 180) summarises in the following lines the conservative treatment of intracranial trauma,

1. *During Period of Shock.*

(i) Intravenous 50 c.c. of 50 per cent. glucose. If necessary 100-300 c.c. of normal saline, but this should be given with caution and rather in small repeated doses than one large one, because the fluid may in a later phase increase cerebral oedema.

(ii) Atropine to control sweating, but its subsequent influence on the vagal control of the pulse must not be forgotten.

(iii) Pituitrin, ephedrin, ergot or strychnine for their cardiac and vasomotor effects on the peripheral circulation.

(iv) Restlessness should be controlled by chloral hydrate grs. xv, and sodium bromide grs. xxx by mouth or double the dose per rectum. Luminal hypodermically. Morphia must not be given on account of its action on the respiratory centre.

(v) Warmth, etc.: All disturbance and examination should be as brief as possible.

2. *Period Following Shock (which commences when temperature reaches normal).*

(i) Toilet of wound, particularly of a compound fracture. X-rays should not be taken unless it can be done without disturbing the patient.

(ii) Detailed neurological examination.

(iii) Lumbar puncture and lumbar drainage if necessary.

(iv) Magnesium sulphate by mouth or rectum, depending on need for dehydration.

(v) Repetition of glucose intravenously according to the blood volume.

(vi) Sedatives.

(vii) Sponge to keep temperature below 103°F.

(viii) Allow 20 ounces of fluid and dry diet if C.S.F. is clear; 30 ounces of fluid if C.S.F. is bloody and during period of lumbar drainage.

(ix) Salyrgan to promote diuresis.

3. *Period of Recovery.*

Strict control of fluid should be maintained, though quantities may be varied if patient be of

the hydrated or dehydrated type. C.S. F. leak may require extra fluid. Patient may be allowed out of bed on the fifth day of recovery and discharged about the tenth.

Patients should be taught to measure and control their fluid intake for three months, and should limit it to 30 ounces daily. Daily weight is a guide to water storage (1 pint weighs approximately 1 pound). If the patient controls his fluid intake he can prevent water storage and its sequel of increased C.S.F. with the symptoms of headache, dulness, loss of attention, etc.

The results of treatment show that as a rule patients make rapid recoveries with normal function and a notable absence of the usual post-traumatic sequelae. The limitation of fluid intake prevents cortical compression and permits of optimal cerebral circulation during the period of recovery. The problem is one of hydraulics, and every effort must be made to protect the cortex from pressure atrophy. The damage at the time of the injury may be permanent but permanent damage should cease at that point, and we must protect the brain from further damage as the result of the reaction to injury. Experience has shown that to a large extent the permanent ill-effects of head trauma are due to the reaction and not to the original injury.

These are the principles to be applied in order to establish and maintain a better blood-supply to the brain organ as a whole when haemorrhage, oedema or pressure threaten its survival.

The Significance of Convulsions in the Diagnosis of Brain Tumor

SACHO AND FURLOW (*Jour. Missouri State Med. Asson.* April, 1936, page 121-27) give in the following lines the summary of their observations on 724 cases of verified brain tumors of which 397 were cerebral, 247 cerebellar and the remaining were pituitary tumors. They observe that convulsions either general or local are frequently the first evidence of brain tumor; they occur more commonly in cerebral than in cerebellar tumor, and none of his patients with pituitary tumor, had convulsions; tumors of the frontal lobes produce convulsions most frequently. They further observe that convulsions may precede all other symptoms of brain tumors by many years. They conclude by noting that "since convulsions so frequently are the first symptom of brain tumor, every patient who has a convulsion should be considered a potential brain tumor case until proved otherwise".

Oedema of the Larynx occurring in Epidemic Parotitis

REVERCHON (*Annals d'Oto-Laryngologie*, Oct., 1935) reports 4 cases of oedema of the larynx as a complication of mumps. Of these 4 cases one died before tracheotomy, one recovered after tracheotomy and two recovered without tracheotomy. In all these cases the submaxillary glands alone or in combination with the parotids were affected. The author discussed in detail how the odema spread from the submaxillary glands to the larynx. He advises tracheotomy as soon as dyspnoeic manifestations are present. When laryngoscopy is possible the degree of abduction of the cords during inspiration should be noted and if found satisfactory the tracheotomy may be delayed.

Treatment of Peptic Ulcer based on Physiological Principles

OCHSNER, GAGE AND HOSOI (*Surg. Gynec, Obstet*, February, 1936, page 257) observe that the treatment of peptic ulcer has been so far very unsatisfactory as too much attention is focused on the ulcer itself without realising that ulcer is only a symptom. In treating ulcer we must treat the man as a whole. The authors attribute the causation of ulcer to two main factors, *viz.* (1) the inherent and predisposing factors constituting tissue susceptibility and constitutional predisposition and (2) the precipitating factors consisting of hypersecretion, hyperacidity, focal sepsis and gastric trauma. As constitutional predisposition is not amenable to therapy the treatment of peptic ulcer involves in dealing with prevention and correction of the precipitating factors. Of the latter hypersecretion and hyperacidity are most important and are dealt with by suitable diets given in small feeds, alkalis (the alkali of choice is calcium carbonate), and restoration of normal function of the pyloric sphincter by means of antispasmodics thereby relieving the gastric retention and diminishing the gastric secretion with free regurgitation of the alkaline duodenal secretion. Anything which increases the secretion e.g. smoking

of cigarettes and ingestion of alcohol and condiment should be prohibited. All foci of infection should be removed and to minimize gastric trauma bland foods containing no roughage should be allowed. Because of the constitutional predisposition to ulcer formation remaining uncorrected a peptic ulcer patient should always lead a careful life and should not do anything which aggravates the precipitating factors. The authors note that surgery is essential only for treating the complications e.g. mechanical obstruction, perforation, repeated haemorrhages, danger of malignant changes. In a case of pyloric obstruction gastro-enterostomy is the procedure of choice. Gastro-duodenostomy is perferred to gastro-jejunostomy as duodenal mucous membrane is more resistant to the acid chyme than is the jejunal mucosa. Chronic callused ulcer refractory to other therapy should be resected radically because of danger of malignant change.

OBSTETRICS AND GYNÆCOLOGY

Asphyxia Neonatorum

YAGI (*Japanese Journal of Obstet. and Gynec.* October, 1935, page 375-95) observes that asphyxia neonatorum is one of the most significant symptoms in the neonatal mortality. The author has studied the post-mortem findings of the new-borns, the electro-cardiograms of the new-born heart, gas analysis of the umbilical blood, roentgen examination of the thoracic organs and investigated on the other hand the foetal heart beat in the uterus during pregnancy and duing different stages of labour. Taking into consideration the pathological anatomy of the new-born and the clinical investigation of the heart sounds he classifies the causation of asphyxia into 3 groups (1) The first group:—In it there is a general congestion in the foetal body due to umbilical and placental hindrances and this causes disturbance to the foetal heart with concomittant disturbance in gas exchanges and the latter produces excitement or paralysis of the respiratory centre causing asphyxia suffocatoria pulmonalis. In this group belong cases of placenta praevia, of premature separation of normally situated placenta and of cord anomalies (viz. knot, tangling, torsion and prolapse etc.).

(2) The second group:—In it cranial stress either natural or artificial causes elevation of intracranial pressure sometimes producing intracranial haemorrhages which brings on asphyxia apoplectica cerebralis. The author is very particular about the three cranial factors stasis, strain and resistance playing important roles in causing cardiac variation and finally asphyxia and it is according to him one of the most common cause of asphyxia as corroborated by postmortem findings.

(3) The third group:—In it there are anatomical and functional anomalies of the heart with arrhythmia and these produce actual weakness of the heart beat and cause asphyxia cardialis.

The author thus concludes that asphyxia in the new-born is never a simple condition but consists of many pathological symptoms which should all be taken into consideration in its treatment and prophylaxis.

Prevention of Hypochromic Anaemia in Pregnancy

CARRIGAN AND STRANSS (*Jour. of Amer. Med. Association*, March 28, 1936, page 1088) studied two hundred women during the last 4 months of pregnancy giving 0·5 gm. of ferrous sulphate to alternate patients, the others receiving placebos. Of the hundred women having no iron 24 had less than 70% haemoglobin post-partum and of the remaining 100 who had iron none had less than 70% haemoglobin. The authors conclude that hypochromic anaemia in pregnancy may be largely prevented by the routine use of iron especially during the later months pregnancy.

Extra-Uterine Pregnancy: An Analysis of 313 Cases from The Harlem Hospital

FALK AND ROSENBLOOM (*Surg. Gynec and Obstet*, November, 1935) give an analysis of 313 cases of extra-uterine pregnancy admitted to the Harlem Hospital from March, 1917 to February, 1934. The site of implantation was found most frequently in the ampullary region, less so in the isthmial position and least in the interstitial position. The mortality rate of this series was 8·3%; of the 26 deaths 19 died after abdominal section. A correct preoperative diagnosis was made in 79·9%. The authors found that the severity of the clinical symptoms and sign was directly related to the site of implantation, nearer to the uterine horn more sudden the onset and more serious the effects.

Vinyl-Ether Obstetrical Anaesthesia for General Practice

BOURNE (*Jour. of Canadian Med. Asson.* Nov-, 1935) writes that vinyl-ether has been found very suitable for obstetrical anaesthesia in general practice. It does not produce any deleterious effect either on the mother or on the child and it causes no impairment of hepatic function. The drug is rapid in its action and any degree of narcosis may be maintained. Recovery is also very quick and uneventful. The anaesthetic may be given by the open-drop method but may be with advantage administered with oxygen in a closed inhaler.

The Use of Blood Transfusion in Puerperal Fever

ERBSLOH (*Monatsochrift f. Geburtshulfe u. Gynakologie*, January, 1936, page 156) reports that he treated 75 cases of puerperal fever with blood transfusion with death in 27 cases (mortality rate 36%) and in the 27 cases were included some moribund cases with circulatory weakness and multiple septic metastases and cases of fulminant sepsis in which the defence power was completely inadequate to combat the infection. Of course there were also 19 very grave cases within a list of 47 cases that recovered with blood transfusion. The author observes that in severe sepsis the maximum improvement by this method of treatment was present in cases in which there was a definite anaemia due to great loss of blood and the cases which showed least improvement were those which had normal red blood cell count and normal haemoglobin percentage. He mentions amongst others the following as contra-indications for blood transfusion:

The presence of signs of cardiac insufficiency, septic pneumonias, endocarditis, extensive thrombophlebitis, severe renal disorders and hepatic metastases. The author employed blood transfusion in all cases of puerperal sepsis except those in which the septic process had become localised.

Cobra Toxin as Analgesic in Gynaecologic Conditions

NEKULA (*Zentralblatt fur Gynakologie*, February 8, 1936, page 328) reports that he treated ten patients with genital carcinoma with cobra toxin and found that there was definite reduction of pain in all the ten cases and in two cases the pains were completely suppressed. He used the toxin of the Indian cobra as it contained the most neurotoxins and the least haemolysins. The toxin is injected in 10 mouse units doses every second day subcutaneously into the deltoid muscle after the skin is disinfected with absolute alcohol (never tincture of iodine). The author used the cobra toxin injection always after radium or roentgen-ray treatment, never simultaneously with it. He observes that though he himself has not yet found any objective improvement with cobra toxin in the local gynaecological condition in cancer he thinks it will in future prove to be more effective by its direct action on cancer tissues than by its analgesic action.

The Treatment of Senile Vaginitis with Ovarian Hormone

DAVIS (*Surgery. Gynec and Obstet.* November, 1935) reports the successful treatment of senile vaginitis with an œstrogenic substance *viz.*, anniotin. He observes that the treatment by this method is soon followed by the healing of the ulcerated areas, disappearance of the inflammatory symptoms, a cessation of adhesive manifestation and a complete disappearance of all the symptoms. The treatment is simple, cheap and satisfactory.

PATHOLOGY AND BACTERIOLOGY

Pericardial Lesions in Rheumatic Fever

FRIEDBERG AND GROSS (*Amer. Jour. of Pathology* March, 1936, page 183-201) describe the macro and microscopic pericardial lesions found in 87 cases of rheumatic fever ranging from 17 months to 67 years. Of these 68 cases showed Aschoff's bodies and other evidences of active rheumatic infection and the remaining 19 did not show Aschoff's bodies but presented typical valvular deformities and old auricular lesions of inactive rheumatic fever. These cases were dealt with in five groups depending on the course of the disease. The authors write that though each group may present individual differences the lesions as a whole fall into 3 characteristic histological patterns. The first is represented very clearly in group I cases (having a single attack of rheumatic fever) and is characterised by typical changes due to inflammation in the lamina propria and portions of the subjecent layer followed by exudation of fibrin.

Aschoff's bodies are found in greatest frequency in this group and adhesion between the pericardial layers is not a frequent finding.

The second pattern is represented in groups II and III consisting of cases of recurrent rheumatic fever and is characterized by marked thickening of the pericardial layers with almost universal formation of adhesions with a tendency to obliteration of the pericardial cavity. The third pattern was found in group IV and V and is characterised by round cell infiltration in the deeper layers of lamina propria and structural alterations of blood vessels. There is an absence of fibrinous exudation and no formation of adhesions. The authors thus conclude that in about 100% of the cases of rheumatic disease of the heart the pericardium was affected with certain inflammatory changes but only in a variable percentage of such cases are these changes prominent enough to produce signs and symptoms by which we can recognise the acute rheumatic infection.

The Secretion of Gastric Mucin in Man. A Comparative Study In Normal Subject And In The Patient With Peptic Ulcer In Response To An Alcohol Test Meal

ANDERSON AND FOGELSON (*Jour. of Clinical Investigation*, March, 1936, page 169-171) estimated quantitatively the mucin content (in stomach) of 33 young adults between 25 and 30 years of age without any gastro-intestinal disease and of 68 patients with definite roentgenographic findings and classic histories of peptic ulcer after giving each of them a test meal of 240 c.c. of 8% alcohol introduced through a Reyfuss tube. They found that there is a relative mucin deficiency per cubic centimeter of gastric contents and corroborates the hypothesis of Hurst that there exists in ulcer patients a hypoprotection as a result of mucin deficiency. 23 of the ulcer patients with originally low mucin secretion curve were reinvestigated after 3 months of therapy (the only mediation used was 50 gms. of mucin suspended in milk and cream divided in 12 doses and given at 1 hour interval throughout the day) and the curve now obtained was similar to that of controls, showing thereby that such mucin deficiency may be corrected by feeding the patients with gastric mucin.

Description of Bacterium Pseudo-carolinus

PASRICHA AND PANJA (*I. M. G.* April, 1936, page 196) review the literature on Bact. pseudo-carolinus and give a detailed description of the organism. The authors hold that it belongs to the genus Salmonella but its exact position in that genus has not yet been determined. The authors hold that the organism is one of the commonest nonlactose-fermenters and possesses definite pathogenic properties.

Natural Spirillum Minus Infection In white Mice

KNOWLES AND DAS-GUPTA (*I. M. G.* April, 1936, page 210) report that fifteen out of 31 white mice or 48% were found to be suffering from natural infection with spirillum minus and have demonstrated beyond doubt that this mouse strain is pathogenic to man. The authors hold that the white mouse may not be a reliable animal for blood inoculation in testing for rat-bite fever.

PEDIATRICS

A Study of Sedimentation Rate In Juvenile Rheumatism

PAYNE AND SCHLESINGER (*Arch. Dis. Child.* October, 1935, page 403) studied the sedimentation rate in juvenile rheumatism and give in the following lines the summary of their observations:—

1. The close relationship between rheumatic activity and the sedimentation rate has been confirmed.

2. Acute tonsillitis and influenza may both cause more than a temporary rise in the sedimentation rate. This must be remembered when making use of the test as possible evidence of active rheumatism. Chronic tonsillar infection on the other hand does not as a rule have any appreciable effect on the sedimentation rate.

3. The influence of anaemia on the sedimentation rate has been examined and a method of assessing the true value of the test in the presence of anaemia is suggested.

4. In acute chorea there is only a small transient rise of the sedimentation rate. This may even be

absent. No indication is given by the sedimentation rate of the possibility of subsequent cardiac involvement.

5. In congestive cardiac failure the sedimentation rate frequently fall to normal even in the presence of active disease. This is a bad prognostic sign.

6. The test is of value in detecting subacute rheumatism and "minature rheumatic fever" following tonsillitis.

7. When nodules are present the test has a prognostic significance. Fall of the sedimentation rate heralds their disappearance".

Autohaemotherapy in Juvenile Asthma

MADDOX AND BLACK (*Arch. Dis. Child.*, October, 1935) treated 24 cases of allergic form of bronchial asthma in children by 5 intramuscular injections of 10 c.c. of child's own blood at weekly intervals. A follow up study of the cases over a period of six to twelve months showed that in about three-quarters of the cases the frequency of the attack was definitely reduced and in every case some alleviation in severity was manifest. The results were found to be more favourable in children under 10.

Physostigmine Derivative In The Treatment of Myasthenia Gravis

EVERT (*Bull. of Neurol. Inst. of New York.* December, 1935, page 523) reports the successful results obtained in two cases of myasthenia gravis by the oral administration of prostigmine a physostigmine derivative in doses of 30 mg. given three times a day over a period of months. The use of the drug by the oral route is safe and does not produce any gastro-intestinal irritation even when used for prolonged periods.

Treatment of Acute Rheumatism

PERRY (*Med. Press and Circ.* January, 1936, page 136) lays great stress on absolute rest and full diet. He advises soda salicylas and soda bicarb to be given but children having rheumatic pericarditis should not get full therapeutic doses for fear of nausea and tinnitus. The author prefers aspirin. Nirvanol may be given to the children other than blondes in two doses of 0·125 gm. daily but not in cases of carditis. When the patient improves there is distinct gain in weight and the sleeping pulse rate becomes slower. A raised sedimentation rate speaks of continued activity and demands further rest. The author observes that a relapse is often preceded by a streptococcal tonsillitis and a further course of salicylates daily for 3 weeks diminishes the chance of further relapse.

Recent Advances in the Treatment of Epidemic Encephalitis

NEAL (*New York State Jour. Med.* 1934. Vol. 34. page 707) writes that the recent conception of the disease being due either to a herpes virus or a neurotrophic form of streptococcus viridans has brought into the field the treatment of the disease by herpes vaccine and Rosenow streptococcus vaccine. 28 patients were treated in the acute stage with herpes vaccine administered intramuscularly in doses upto 4 c.c. continued over 18 weeks followed by a period of rest for 6 weeks and there was a distinct lowering in the mortality rate. 500 patients were treated either with herpes vaccine or Rosenow vaccine and the former gave distinctly better results. The intravenous administration of hypertonic glucose solution is highly efficacious in improving nutrition, general and of the heart, and in diminishing intracranial pressure. For the relief of tremor and rigidity hyoscine and stramonium may be used but the author indicts the routine administration of these drugs. Atropine is extremely useful in controlling sialorrhoea and oculogyric crises.

MEDICAL NOTES AND NEWS

ALL-INDIA OPHTHALMOLOGICAL CONFERENCE

Dr. B. N. Bhaduri and Dr. G. Zachariah, Hony. Secretaries, All-India Ophthalmological Society write: The fifth conference of the All-India Ophthalmological Society will be held in Lahore during the last week of December, 1936. Lt.-Col. E.O'G Kirwan I.M.S., will preside. One session of the conference will be devoted to a discussion on Ocular disorders in Diabetes. X'mas concession will be available at the time on all Railways.

The D. S. Adenwalla gold medal for the year 1935, has been awarded to Capt. K. L. Sen, F.R.C.S.E. for his work on "Studies on ocular changes due to vitamin 'B' deficiency in the diet on albino rats".

INDIAN STATISTICAL INSTITUTE

The annual general meeting of the Indian Statistical Institute was held in the Board Room of Messrs. Martin and Company, Calcutta on April 24. Sir Edward Benthall presided.

The Secretary Professor P. C. Mahalanobis presented the report for 1935-36, which recorded progress in several directions. The Institute has appointed a strong commmittee of University professors and business men to conduct examinations for granting certificates and diplomas in statistics. It is proposed to hold the examinations during 1936-37 with the co-operation of experts from abroad. Detailed regulations for examinations in statistics have been passed and may be obtained on application to the Secretary at the Statistical Laboratory, Presidency College, Calcutta.

Another important line of progress is towards the improvement of official statistical publications, for which a committee of economists, statisticians and businessmen had been set up last year. The report of that committee was adopted by the Institute, suggesting several improvements, particularly regarding the speeding up of the issue of official reports.

With the help of research grants from the Governments of India and Bengal and from the Imperial Council of Agricultural Research, many important items of research were carried on in the Statistical Laboratory, Presidency College, Calcutta. Many persons were deputed there by Government Departments and universities for short courses of training in statistics as in previous years. Apart from the three branches at Bombay, Poona and Mysore, a new branch of the Institute was started at Benares during the year.

The audited accounts reveal a deficit of nearly Rs. 3,500 for the publication of *Sankhya, The Indian Journal of Statistics*, which was borne by one of the workers in the Statistical Laboratory. The Secretary pointed out that the best way to reduce this heavy deficit was for all interested in statistics to join the Institute as members.

SHIELD FOR ANTI-TUBERCULOSIS WORK

The King George Thanksgiving (anti-tuberculosis) Fund annually awards a silver challenge shield to any Corporation, Municipal Council or Municipal Committee in British India, Burma, or an Indian State doing anti-tuberculosis work, or any other organization, association or committee which is doing anti-tuberculosis work in any of the territories which the central committee of the Fund may from time to time admit as being eligible to compete.

Entries for 1935 have been invited by the Organizing Secretary, King George Thanksgiving (anti-tuberculosis) Fund, "Sherwood" Simla, W.C., who will supply the prescribed forms and rules on application.

In awarding the shield full consideration will be given to efforts made and results achieved in the prevention of tuberculosis. The winning body will be entitled to hold the shield for one year.—*A.P.I.*

INDIAN SCIENCE CONGRESS, 1937

At the invitation of the Osmania University, the Indian Science Congress Association, will hold its next session in Hyderabad commencing from the 2nd of January, 1937.

The session, which will last for one week, expects at least four hundred scientists from all over India to be present on the occasion.

Rai Bahadur T. S. Venkatraman, Imperial Sugarcane Expert of Coimbatore, has been elected president of the forthcoming session.

A local committee is being set up for making the necessary arrangements for the session.—*A.P.I.*

MEDICAL CERTIFICATES FOR HAJ PILGRIMS

The Government of India have introduced standard forms of certificates of anti-cholera inoculation for issue to pilgrims proceeding to the Hedjaz and of vaccination against small-pox for issue to all passengers embarking at Indian ports for ports beyond India including pilgrims proceeding to the Hedjaz. Certificates issued by registered medical practitioners, other than a (i) Civil Surgeon, (ii) District or Municipal Medical Officer of Health, (iii) Director or Assistant Director of Health, (iv) Port Health Officer, (v) Chief Medical Officer of a Railway, and (vi) any other officer who may be authorised in this behalf by the Government of India, must be countersigned by one of the Officers mentioned above, the countersignature being obtained free of charge by the registered medical practitioner concerned.

HOLKAR'S DONATION FOR MEDICAL RESEARCH

The Secretary, Indian Institute for Medical Research has announced that his Highness the Maharaja Holkar of Indore has been pleased to grant a sum of Rs. 1,000 to the Institute for the furtherance of Medical Research.

CALCUTTA'S HOSPITAL FOR CHILDREN

"Shishu Sadan", the new annexe of the Chittaranjan Seva Sadan and so named by poet Rabindra Nath Tagore, was informally opened on the 1st Baishakh last. Lady Abala Bose presided on the occasion and the function was attended by a large and distinguished gathering of ladies and gentlemen.

The annexe which is designed to be a three-storeyed structure and of which only the ground floor has so far been completed, has been erected on the new site acquired near the Seva Sadan and consist of two spacious halls containing sixteen beds each. The special feature of the equipments of these two wards consists of a large number of children's toys which have been provided for the amusement and recreation of the young patients who will be treated in these wards.

Dr. B. C. Roy, Secretary of the Board of Trustees at the outset read out two messages of good wishes received from poet Rabindra Nath Tagore and Lt.-Col. U. N. Mookerjee. He also announced that the Seva Sadan had received on the present occasion donations of Rs. 4,000 from Mrs. Nareu Mookerjee, Rs. 8,000 from Mr. S. D. Pyne, Rs. 500 from Dr. Miss Sarojini Dutt, Rs. 4,000 from Mr. Banwarilal Roy and Rs. 5,000 from a lady who preferred to remain anonymous, besides other donations in cash and kind from numerous kind-hearted ladies and gentlemen of Calcutta.

Sir Nilratan Sarkar, Chairman of the Board of Trustees, in inviting Lady Abala Bose to open the Shishu Sadan recalled that from the very beginning of this great institution the intention of the trustees had been to give shape to the great love which the large-hearted Deshabandhu had cherished for the poor and the destitute and provide, not a mere hospital but an institution which would combine in itself the efficient treatment of a hospital and the love and comfort of a home. The Seva Sadan, he said, had all along striven for the realisation of that great ideal which was also the ideal of the new Shishu Sadan. He hoped that the children who would come to this home would not only receive the better medicine that a doctor could give to his patient for his recovery, but also the love of a mother, the playful companionship of a sister and the fond indulgence of a grandmother which after all had greater curative value than any medicine as such. They were fortunate in having Lady Abala Bose to open the Sadan for as the sister of the great Deshabandhu she could best appreciate the idealism of her illustrious brother and instil the same in all who were entrusted with its administration.

BENGAL SCHEME TO PREVENT BLINDNESS

The first travelling dispensary, styled the Jubilee Eye Dispensary, housed in a commodious motor van well-equipped with medical appliances for the treatment of eye diseases, left the Calcutta Medical College Hospital for Burdwan on the 28th March last. Select gathering of doctors and members of the Association for Prevention of Blindness in Bengal assembled on the green lawn in front of the Eye Infirmary to give a hearty send-off to Dr. Kshirode Mitra, who is in charge of the dispensary and his

party consisting of a hospital coolie and the driver. The doctor and his men will lead a life of travelling in the different districts of the province administering relief to the suffering humanity. This is a part of the campaign of prevention of blindness in Bengal.

The expenses of the dispensary have been met from the late Majesty's Silver Jubilee Fund.

INVESTIGATION OF EPIDEMIC DROPSY

The University of Calcutta has, it is understood, undertaken an investigation into the nature of Epidemic Dropsy. For this purpose a sum of Rs. 1,200 has been sanctioned, the amount to be met out of Sir P. C. Roy Fellowship Fund. Dr. Surendranath Roy of the Carmichael Medical College, Calcutta, has been entrusted with the research and he has started work under the direction of Sir Nilratan Sircar.—*U. P.*

MEDICAL FACULTY'S OFFERS TO WOMEN STUDENTS

With a view to encourage the admission of women students in the Faculty of Medicine of the Lucknow University the Executive Council has sanctioned the following arrangements:—

At present all admissions to the Faculty of Medicine are made by an open competition for which women students are of course equally eligible with men students, and occasionally a woman student or two has been able to secure admission in this way. In future, if the number of women students who are able to secure admission in this way is less than two, the Executive Council has decided to increase the number to two at least by taking one or two students who do not come within the first 48 students, which is the number at present admitted every year, provided they show a reasonable chance of their going through the course without any difficulty. This will, for the present, be judged in the following way:

A woman student who gets in the open competition a percentage of marks which does not fall below the marks obtained by the lowest admitted candidate by not more than 5 per cent. of the total, will be admitted in addition to the 48. The number of women students admitted under this provision will not be more than two, and the actual number will be fixed so as to have at least 2 women students admitted every year, either by the open competition or by this modified provision if necessary. Of course, if more than two women students secure admission by the open competition they will be necessarily admitted and the modified provision will not be put into operation.

Scholarships and Prizes.—Two or three MacDonnell Scholarships of Rs. 30 p.m. tenable for 5 years will be offered to successful women candidates, provided they sign an agreement, in the prescribed form binding themselves for a period which may extend to 4 years next following the date when they graduate, to obey the instructions of Government, if the Government should instruct them either to serve in the Q. M. Hospital for Women and Children, or any other Hospital in the United Provinces, or to practise medicine in the U. P. If they fail to comply with the agreement signed by them, they will have to refund the whole amount of the scholarships paid to them.

Another scholarship of Rs. 10 p.m. tenable for one year in the first year course will also be available. This is Raja Raghubir Dayal Scholarship.

Another Batool Bursary Prize valued at Rs. 70 will be available to a student of the Rohilkhand division, who passes her First Professional Examination in Medicine.

Hostel Accommodation.—Women students admitted can stay either with their guardians or in the Kailash Hostel maintained by the University near the Canning College. The question of special Hostel for women students of the Faculty of Medicine may be taken up if there is a large number of women students in the Faculty and there is a demand for it.

In the course of a circular letter, the Registrar has informed the Principals of all Colleges of this arrangement in order that they may be brought to the notice of women students who want to take up a medical course. Applications for the pre-medical test should reach the Registrar before June, 30.

RADIUM INSTITUTE IN TRAVANCORE

It is understood that intimation has now been received that H. E. the Viceroy has approved of the proposal to name the Radium and Radiological Institute and the Tuberculosis Hospital to be estab-

lished in Travancore in memory of King George V's Silver Jubilee as the King George V Silver Jubilee Radium and Radiological Institute and the King George V Silver Jubilee Tuberculosis Hospital. The Radium and Radiological Institute will be located at the General Hospital, Trivandrum and the Tuberculosis Hospital at Nagercoil. The Durbar Physician, who is the head of the Medical Department, has been invited to make proposals for starting both the institutions at a very early date.

Rs. 86,736, constituting seventy per cent. of the total collections for the Viceroy's Silver Jubilee Fund, was received back by Travancore from the Central Fund, and of this Rs. 70,000 was allocated for the Radium and Radiological Institute and Rs. 16,736 for the Tuberculosis Hospital. The sum of Rs. 25,800 collected for the Travancore Silver Jubilee Celebration Fund, as distinct from the Viceroy's Silver Jubilee Fund, is also being allotted to the Tuberculosis Hospital. It is hoped that both institutions will become accomplished facts very soon. —*A.P.I.*

NEW CHILDREN'S HOSPITAL IN MADRAS

Lady Marjorie Erskine performed on the 18th March last the pleasant function of opening the Prince of Wales Hospital for Children, Triplicane, in the presence of a large gathering.

The building is expected to cost Rs. 1,90,500 of which a sum of Rs. 1,30,000 has so far been placed at the disposal of the Public Works Department. A sum of Rs. 17,500 has been transferred to the Surgeon-General towards meeting the cost of equipment. A sum of Rs. 1,75,000 has been invested in Government of India paper; there is yet a balance of Rs. 84,500 in the current account, and whatever remains out of this amount will be like-wise invested in Government of India paper.

It has been decided that the Government will assume control over this institution and maintain it out of the provincial revenues. The cost of annual maintenance of this institution will amount to nearly Rs. 24,000, and all expenditure over and above the accruing interest of the Government of India paper will be borne by the Government.

The institution is essentially the product of public philanthropy, and the names of the following donors deserve more than a passing mention:

(1) His Highness the Maharaja of Travancore, Rs. 20,000; (2) His Highness the Maharaja of Cochin, Rs. 10,000; (3) His Highness the Raja of Pudukottah, Rs. 10,000; (4) The Raja of Vizianagaram, Rs. 10,000; and (5) The Zamindar of Sivaganga, Rs. 10,000.

RADIUM INSTITUTE FOR BOMBAY

The United Press learns that Sir Dorabji Tata Memorial Fund Trust has decided to start at Bombay an up-to-date Radium Institute with a huge hospital equipment for the treatment of Cancer

It is further learnt that it has been decided to invite two American experts on high salaries to be Director and Assistant Director of the Institute. A sum of Rs. 1,70,000 has also been sanctioned for their expenses while undergoing special training in Britain for three years before joining regular duty.

ANDHRA MEDICAL CONFERENCE

The sixth Andhra Medical Conference will be held at Rajahmundry on the 4th and 5th July, 1936.

Dr. B. C. Roy, M.D. (Cal.), M.R.C.P. (Lond.), F.R.C.S. (Eng.), of Calcutta has kindly consented to preside.

All the members of medical profession in Andhra Desa are requested to enrol themselves as delegates and attend the Conference.

Those who intend moving resolutions and wish to read papers on scientific subjects are requested to intimate the Secretary Dr. P. V. Brahmanandam before the 20th June, 1936.

THE PASSING OF DR. ANSARI

New Delhi, May 10.

The news of the death of Dr. Ansari spread like wild fire throughout the city in no time. The morning papers came out with black borders. A large crowd collected at the railway station when the train carrying his body arrived. He will be buried at the Jammia Milia (National Muslim University) near Okhla, about 18 miles from the city of which he was one of the founders.

Hartal is being observed and a public meeting will be held in the evening.

Dr. Ansari is survived by his widow, two adopted daughters, a brother, a sister and a large number of friends and relatives.—*A.P.I.*

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New Delhi, May 10.

Touching scenes were witnessed at "Dar-es-Salem," Dr. Ansari's residence, where a large number of his friends and relatives collected when the body was brought in a hand-drawn cart from the railway station. Prayers are being offered outside the Bungalow for the departed soul and a number of Muslim priests are quoting passages from the Holy Quran.

The procession, it has now been decided, will be taken out at 9-30 a.m. and after going to the Jumma Musjid, where prayers will be offered, will pass through Chandni Chowk and other important localities after which it will proceed to Jammia Milia.

Dr. Ansari died at Jainpur Station little after 12-30 and the news was telephonically conveyed by the railway authorities at about 3 a.m.

Accompanied by a servant, Dr. Ansari left for Dehra Dun last Friday and reached Mussoorie on the following day to see the Nawab of Rampur. After a very busy day, he left yesterday for Delhi.

At midnight he called the servant to his compartment, told him that he was feeling a pain and asked him to give him some medicine. The servant gave him the medicine and rubbed his back. After taking the medicine, Dr. Ansari said in a low voice that he wanted to live, but that he was dying. An hour later he expired. Lately, he had not been feeling quite fit and complained of exhaustion. On his return from Lucknow he complained of intense heat. He was suffering from high blood pressure. Only yesterday he received a letter from Mr. Gandhi who had sent him a patient from Wardha.

Great loss is felt in political circles.—*A.P.I.*

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New Delhi, May 10.

With reference to the news of Dr. Ansari's death, details received from Mrs. Kelly, Dr. Ansari's guest, who was travelling with him from Dehra Dun in the same compartment indicate that near Bijnor he felt pain in the chest and wanted some medicine which could not be had handy whereupon he became restless for half-an-hour and then breathed his last at about 12 last night.

His body was brought by the same train to Delhi this morning at 6-10 a.m. A large number of people including Sir Abdur Rahaman, Dr. Zakir Hussain, Lala Deshabandhu Gupta, Sj. Devidas Gandhi, Mr. Asaf Ali and a large number of Congressmen and others were present at the station and carried his body to Dr. Ansari's house at Daryagunj where pathetic scenes were witnessed when nearly two thousand people of various communities and all walks of life paid silent homage to the departed leader.

The bier was then carried to the Jumma Musjid where prayers were offered which were joined by a large number of Muslims. The dead body was then taken in a lorry decorated with national flags to Okhla where he was interred in the compound of the Jamia Milia-Islamia (Muslim National University) which he loved so much and of which he was the Chancellor till death.—*U.P.*

A SHORT LIFE SKETCH

Doctor Mukhtar Ahmad Ansari, was born at Yousufpur, district Ghazipur, U. P., on December 25, 1880, in an illustrious Hakim family.

He was educated in the local Muktab and then in 1887 he joined the Queen's Collegiate School at Benares and passed his middle school examination there in 1893. In the same year he went over to Allahabad and passed in 1895 his Matriculation from the Government High School. Thereafter he entered the Muir Central College for Intermediate Science which he passed in 1897. The following year he went to Hyderabad (Deccan) and joined the Nizam's College affiliated to the University of Madras. He took his degree in 1900 with the sciences for his subjects.

Promising Scholastic Career

His keen intellect and bright career at the College won for him the Nizam's scholarship for post-graduate studies abroad. He proceeded to England and joined the University of Edinburgh as a medical student. In 1905 he obtained the degree of M.B., Ch.B., came to London and joined the Charing Cross Hospital as a Post-Graduate student.

He passed his M.R.C.S. (Eng.) and L.R.C.P. (Edin.) examinations in 1906 as also the examination for the degree of M.D., of the Edinburgh University.

House Surgeon at Charing Cross Hospital

His merits achieved recognition in the distinction, then unique for any non-Englishman, of being House Surgeon of the Charing Cross Hospital in 1907.

In 1908 he was made Resident Medical Officer of the London Lock Hospital and in the same year he obtained the degree of Master of Surgery, of the University of Edinburgh. In 1909 he was appointed House Surgeon of the Lock Hospital for Women and Children, Harrow Road, London.

Back to India

About the end of 1909 he returned to India and began consulting practice in Delhi from January 1910. But hardly had he settled down when, during the Turko-Bulkan War of 1911-12 he organized and led to Turkey as Director the famous All-India Medical Mission. The Mission's splendid work in the service of the sick and wounded and Dr. Ansari's name are still gratefully remembered in Turkey. The Sultan of Turkey in recognition of his services to the sick and wounded decorated him with the highest order given in Turkey to any foreigner, the First Class Order of Medjidia.

Political Work

In 1916-17 he joined Tilak's Home Rule League and took a prominent part in the Delhi Congress of 1918. He was appointed one of the Joint Secretaries of the All-India Congress Committee, which post he held almost continuously till 1927. He was Chairman of the Reception Committee of the All-India Muslim League which also held its annual session at Delhi in 1918.

In December 1920, he presided over the annual session of the All-India Muslim League which was held at Nagpur along with the Indian National Congress. He was Congress Secretary in charge of and a member of the Civil Disobedience Enquiry Committee which toured India in 1922 and issued a divided report. Dr. Ansari advocating the no-change policy. The same year he presided at the All-India Khilafat Conference at Gaya.

He was Chairman of the Special Session of the Indian National Congress which was called at Delhi in September 1923, and helped substantially in bringing about a compromise between the no-change and pro-change parties of the Congress.

Faith in Communal Unity

He is one of those Indian leaders with whom Hindu-Muslim unity is an article of faith. In this pursuit he has never recognised disappointments and failures. In 1924 he initiated the unity talks at Simla.

President of Congress

The nation signalized its appreciation of his services by electing him President of the Indian National Congress in 1929.

He presided over the All-Parties Conference held at Delhi in 1928 whose work was later taken

up by a smaller committee that produced the famous document called after the late Pandit Motilal Nehru. He was also president of the two national conventions of Lucknow and Calcutta in 1929.

His passion for Nationalism and inter-communal unity led him to found the Nationalist Muslim Party which, under his leadership, has rendered invaluable service to the cause of Nationalism.

He was imprisoned twice during the Non-Co-operation movement in 1930 and again in 1932.

On the urgent and peremptory advice of a famous heart specialist in Germany and Austria, Dr. Ansari had to retire from active politics in 1933, until his heart became fit to bear the strain and excitement of public life.

In May, 1934, Doctor Ansari was elected President of the Congress Parliamentary Board, and under his able leadership the Congress won the Assembly election throughout the country.

In 1935 Doctor Ansari resigned, because of ill-health, but he continued taking keen interest in the Congress. After a period of rest, he attended the Lucknow Congress, where his advice was sought on every important question.

Educational Reconstruction

Ever since he entered public life Dr. Ansari has been deeply interested in the education of Mussalmans. From 1913 to 1920 he was a prominent and progressive trustee of the M. A. O. College of Aligarh in which capacity he rendered valuable service to the Institution. In 1920 the non-co-operating Muslim leaders among whom Dr. Ansari was foremost founded the Jamia Millia, the National Muslim University, an institution run on strictly national lines and independent of Government aid and Government control.

The Jamia originally founded at Aligarh was, in 1925, brought to Delhi by the efforts of Dr. Ansari and Hakim Ajmal Khan who was its chancellor. On the death of Hakim Ajmal Khan in December 1927, Dr. Ansari succeeded to the Chancellorship of the University which post he occupied ever since.

As a physician Dr. Ansari commanded a position which few in the profession have been able to win. His clientele consisted of the world's richest men and women but the major portion of his princely income was spent in charity. His house was a free guest house for all people from every corner of the earth.

Close Connection with the I. M. A.

He was an ex-President of the Indian Medical Association having presided over the X All-India Medical Conference held at Bombay in 1933. He was the chairman of the Reception Committee of the Delhi Session of the All-India Medical Conference, 1934. He had been a member of the Central Council all through and a collaborator to the Journal of the Indian Medical Association ever since its inception.

ASSOCIATION NOTES

U. P. PROVINCIAL BRANCH

Proceedings of a meeting of the Working Committee of Indian Medical Association, U. P. Provincial Branch held on Saturday the 14th December, 1935 at 4-30 p.m. in the Garvie Medical Library rooms, Town Hall, Meerut.

Members Present:—

Dr. S. Halder of Muzaffarnagar—*Vice-President*—in the chair.

Dr. H. N. Beri of Bulandshahr.

Dr. Kunj Behari Lal Varma of Meerut.

Dr. Bhupal Singh—*Hon. Provincial Secretary.*

Dr. R. N. Bose—*Hon. Jt. Provincial Secretary.*

I. The following condolence resolution was passed all standing:—

"Resolved that this Working Committee of I.M.A., U. P. Provincial Branch expresses its heartfelt condolence at the sad demise of Mrs. Col. Bhola Nauth and extends its deep sympathy with Col. Bhola Nauth in his sad bereavement."

Further resolved that a copy of the resolution be sent to Col. Bhola Nauth.

II. Resolved that the attached statement of account for the months of October, and November, 1935, be passed.

III. Resolved that the following provisional budget be passed for the year 1935-36:—

INCOME

Provisional income from Central Fund's contribution ...	...	Rs. 600

EXPENDITURE

Postage	...	Rs. 125
Stationary and Printing	....	Rs. 125
Miscellaneous ...	...	Rs. 50
Establishment ..	...	Rs. 300
	Total	Rs. 600

IV. (a) Resolved that question of a whole-time clerk be postponed and that the present arrangement of a part-time clerk should continue at present.

(b) Resolved that an increment of pay of Rs. 10/- be given to the present clerk, Babu Jag Mohan Prakash, with effect from 1st December, 1935.

V. Read the letter from Remington Rand Inc., dated 21-10-35 regarding purchase of a new typewriter.

Resolved that the latest model No. 16-C, Brief size Remington Standard typewriter fitted with 14½" roller should be purchased in exchange of our old typewriter No. 10A/RKO 3511 on the terms enumerated in the said letter, and that it should have Pica Types.

VI. Resolved that the following resolutions be placed before the Subjects Committee of the XII All-India Medical Conference to be held at Nagpur on the 26th to 29th December, 1935.

(i) Resolution No. VI of the 2nd U. P. Medical Conference regarding the amendments of the Lunacy Act.

(ii) Resolution No. VIII of the 2nd U. P. Medical Conference regarding granting of medical certificates by private medical practitioners.

(iii) Resolution No. X of the 2nd U. P. Medical Conference regarding minimum standard of qualifications of medical schools to be fixed by the Indian Medical Council.

(iv) Resolution to start a Benevolent Fund (by I.M.A.) for the benefit of qualified medical men, their families or dependants.

VII. Read the letter from Acting Chairman of the King George Thanksgiving (Anti-Tuberculosis) Fund dated 3-12-35.

Resolved that the alternative in para 5 (b) of the above letter be recommended and the suggestion

be intimated to all branches in U. P. for necessary action.

VIII. Resolved that a sub-committee of the following members be constituted to draft a provisional scheme of Association of Private Medical Practitioners as Honoraries in the work of the Government and Local Board Hospitals and its dispensaries:—

Dr. Bhupal Singh.

Dr. Kunj Behari Lal Varma.

Dr. R. N. Bose—*Convener.*

IX. Letters from Dr. Kunj Behari Lal Varma and Dr. R. N. Bose, members of the U. P. Medical Council inviting suggestions for the amendments of the U. P. Medical Council Act and codes of medical ethics, were read:—

(a) Resolved that a sub-committee consisting of the following members be formed to draft the amendments of the codes of medical ethics:—

Dr. Bhupal Singh.

Dr. Kunj Behari Lal Varma.

Dr. R. N. Bose—*Convener.*

(b) Resolved that amendments to the U. P. Medical Council Act as passed at the 1st and 2nd U. P. Medical Conferences of 1934 and 1935 be communicated to Drs. Kunj Behari Lal Varma and R. N. Bose for information and necessary action.

X. The Provincial Secretary then informed the Working Committee as to the steps taken to negotiate the proposed deputation to the Hon'ble Minister I/C, Local Self-Government and Medical Department. While doing so he informed the house that the Hon'ble Minister fixed 28th November, 1935, to receive the deputation, but that on account of Viceregal visit to Lucknow on that date, the deputation had to be postponed to 30th November. But this date was so suddenly fixed by the Hon'ble Minister that it did not suit some of the deputationists including our President and hence the thing has been postponed indefinitely for the time being.

XI. Resolved that B. Jag Mohan Prakash, clerk be granted leave from the 23rd December, 1935, to 7th January, 1936, both days inclusive.

With a vote of thanks to the chair, the meeting dispersed.

R. N. BOSE, *Provincial Jt. Secretary.*

D. R. RANJIT SINGH, *President.*

* * * *

Proceedings of a Meeting of the Provincial Council of I.M.A., U. P. Branch jointly with members of the deputation to wait on the Hon'ble Minister and a few important members of the profession specially invited, held on Thursday, the 12th March, 1936, at 1 p.m. at Lucknow:—

Gentlemen Present:

Major D. R. Ranjit Singh—*President.*

Dr. S. N. Misra, (Cawnpore).

Dr. D. D. Pandya, (Lucknow)—*On special invitation.*

Dr. K. P. Bagchi, (Agra).

Dr. Kunj Behari Lal Varma, (Meerut).

Dr. Bhupal Singh, (Meerut).

Dr. R. N. Bose, (Meerut).

The meeting was adjourned for want of quorum.

R. N. BOSE, CAPT., M.B.,
Hony. Provincial Jt. Secretary.

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Proceedings of the adjourned meeting of the Provincial Council of I.M.A., U. P. Provincial Branch jointly with members of the deputation to wait on the Hon'ble Minister and a few important members of the profession specially invited, held on Thursday the 12th March, 1936, at Lucknow:—

Gentlemen Present:

Major D. R. Ranjit Singh—*President.*

Dr. S. N. Misra (Cawnpore).

Dr. D. D. Pandya (of Lucknow, by special invitation).

Dr. K. P. Bagchi (Agra).

Dr. Kunj Behari Lal Varma (Meerut).

Dr. Bhupal Singh (Meerut).

Dr. R. N. Bose (Meerut).

I. Resolved that this meeting expresses its deep sorrow at the sad demise of His Late Majesty King

George V and offers its respectful condolence to the members of the Royal Family in their sad bereavement.

Passed unanimously all standing.

II. Resolved that this meeting expresses its deep sorrow at the sad and sudden demise of Col. Bhola Nauth, late President of the Indian Medical Association and offers its heart-felt condolence to the members of his family in their sad bereavement.

Passed unanimously all standing.

III. Resolved that this meeting expresses its deep sorrow at the sad and untimely demise of Dr. A. P. Mathur of Saharanpur and offers its heartfelt condolence to the members of the bereaved family.

Passed unanimously all standing.

IV. Resolved that this meeting expresses its deep sorrow at the sad and untimely demise of Mrs. Kamala Nehru and offers its heartfelt condolence to the bereaved family.

Passed unanimously all standing.

The meeting was adjourned for five minutes as a mark of respect for the departed souls.

The adjourned meeting started after five minutes (2nd Adjourned meeting).

I. Proceedings of the last Working Committee meeting were read and confirmed.

II. Accounts for the period 1st October, 1935, to 29th February, 1936 were put up.

Resolved that the accounts be passed.

III. The Hon. Provincial Secretary then read his report for the period 12-10-35 to 12-3-36, which was adopted.

IV. Read the proceedings of the Central Council of I.M.A. held at Delhi on 17-2-36.

(i) As regards item No. 5:—

(a) The question is already being tackled by this Provincial Branch.

(b) Resolved that the scheme of subsided rural dispensaries as introduced in the Madras Presidency be obtained from the Central Office and should be considered by the Working Committee and necessary action taken.

(c) Noted.

(ii) As regards item No. 9 (draft rules for the procedure of submitting resolution to the Annual All-India Medical Conference and the Annual General Meeting of I.M.A.):—

IV. (ii) A. Re. Annual General Meeting:—

Resolved that the rules be recommended for adoption with the following amendments:—

In 1. (a) Add at the end "as laid down in Rule 32".

In 3. Add at the end "in case a resolution is sent direct, a copy should always be sent through the Branch concerned".

In 4. At the end of item 4 add "a resolution of an urgent nature can be admitted at short notice by special permission of the Central Council at its meeting held just preceding the Annual General meeting.

At this stage Major Ranjit Singh left the meeting and Capt. Bagchi was voted to the chair.

IV. (ii) B. Re. Annual Conference.

In 1. (a) Substitute "President" by "Chairman".

In 1. (b) Delete as this is covered by Rule 32.

In 1. (d) Delete "other elections".

In 1. (g) Delete as these resolutions must pass through the Subjects Committee.

Rule No. III. Add after the word "meeting" in 3rd line "except resolutions of urgent importance which can be admitted any time upto the meeting of the Subjects' Committee by special permission of the Chairman of that Committee. Reasons showing urgency of the matter shall be given in writing by the mover along with the resolution."

Resolved that the draft rules sent by the Head Office for All-India Medical Conference be adopted with the above amendments.

IV. (iii) In item No. 10 (Amendments to Rules of I.M.A.).

Rule 7 (b). Amendments approved with the following addition between the words "member" and "in" in line 9:—"on its rolls". The amendment is approved.

Rule 9. The consideration of the amendments of Rule 18 was referred to the Working Committee for disposal.

Along with the foregoing amendments, a letter from Hon. Secretary, Jhansi Branch. dated 11th March, 1936, was also considered.

Resolved that the remaining portion of this letter after amendments to rule 9 be considered by the Working Committee.

V. The subjects of the deputation:—

Resolved that the members of the deputation be requested to meet and discuss these subjects. e.g., amendments to U. P. Medical Act and ethics.

VI Item No. 6 of agenda could not be considered for want of time and was referred to the Working Committee.

With a vote of thanks to the chair the meeting dispersed.

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HONORARY PROVINCIAL SECRETARY'S REPORT.
For the period 12-10-35 to 12-3-36.

The period has not been of special activity so far as formation of new branches was concerned. We found it difficult to maintain the branches that had been formed. The chief difficulties have been the petty jealousies and personal differences working among the members. Hardwar Branch fared worse in this respect but after a personal visit that I paid to them the members have decided to make a real effort to keep together and I hope the branch will not dissolve. Dehra Dun also is in a precarious condition. Personal letters have been issued to the various members. The Secretary—Dr. Mitranand, is a very enthusiastic person and he has promised to hold on. I hope we will succeed. I am thinking of paying them a visit in the near future. Bareilly is another branch which is dwindling but Dr. Mukerji, the Secretary is trying to keep it alive. There was a serious problem which had cropped up in Moradabad. The official members were trying to get out of the I. M. A. and wanted to be local members of the branch. This example would have proved very harmful to the success of I. M. A. in U. P. But thanks to the efforts of Dr. Dikshit better counsel has prevailed and officials and non-officials are again in and the branch is getting on successfully.

We have not been very successful in forming new branches. Muttra and Farrukkabad in spite of great efforts are holding out. Deoria is favourably inclined but is still out. Gorakhpur is not responding. Sitapur and Fyzabad are not very responsive. We have however succeeded in forming a branch at Dholpur, thanks to the patronage of Dr. Suraj Mal Sarin, the Chief Medical officer. Though the place is outside U. P. but the branch has definitely decided to remain attached to U. P. and until there is a Rajputana branch, we have decided to keep it with us.

The following branches have paid in their subscription for 1935-1936:—

Agra; Bareilly; Bulandsharh; Cawnpore; Dehra-Dun; Gonda; Jhansi; Khurja; Meerut; Moradabad; and Saharanpur and Dholpur.

Saharanpur Branch is exceptionally active. Thanks to the active interest taken by Dr. Saxena our late Joint Secretary. Saharanpur, Moradabad, Khurja, Jhansi and Gonda all show increase of membership.

The following branches have not yet paid in their subscription for 1935-1936:—

Aligarh; Allahabad; Ballia; Benares; Budaun; Etawah; Ghazipur; Hardwar; Lucknow; Muzaffarnagar; Najibabad and Shahjahanpur.

Our appeal for a Special Fund has resulted in a collection of Rs 496/- out of which we have been able to get a New Typewriter which is helping our propaganda work a great deal. A good Rotary is urgently needed but I am afraid we have to wait for it.

The question of deputation to the Hon'ble Minister has been the source of a lot worry and expense to us. After several month's of silence we got an intimation from the Hon'ble Minister fixing 28th November 1935 which was then changed to 30th November and was untlimately postponed indefinitely. Again 24th February, 1936 was fixed which was changed to 10th March and again to 13th March. All this meant lot of trouble in informing the members who were distributed all over the Province and lot of expense on wires as information received was at the nick of time and we could only inform members by telegram. In some cases it meant a lot of inconvenience to the members as they had to arrange their work again and again. I assure you, gentlemen, it was not our fault but the

will of the people in Power and we had no choice left. I do hope this is the last date and we will have a talk with the Hon'ble Minister and will be able to put our views before him on the important questions affecting us.

The most important question which has been troubling us is the question of Poisons' Rules. We have written to the M.L.C's to help us at this session of the Council and many of them have promised R. B. Mr. Vikramajit Singh, Mr. Chintamani, Nawabzada Liakat Ali Khan, R. B. L. Anand Swarup and Sahibzada Rashiduddin have specially promised to help. Very likely there is not a day to be given to non-official resolution and so they propose to try a cut motion at the time of medical budget. Let us hope they succeed. We have decided to see the members and explain our point of view.

The U. P. Provincial Branch put up Drs. Bose and Caul for the vacant seats in the Medical Council and both the members got in un-opposed. The non-official group now becomes a strong group giving a united front and the result has been the successful carrying through unanimously of resolution about the Poisons' Rules in the Medical Council and amendments to Medical Act and ethics.

Our Secretary and Doctor Banerji of Meerut and Dr. Srivastava of Allahabad, attended the Medical Conference at Nagpur. They have been very helpful in shaping the various resolutions and at times had to put in touch effort to get some of the resolution through. The Poison' Rules Resolution did not find any sympathy among members from other Provinces. The Lunacy Act resolution was accepted, after a lot of discussion. The Secretary, Indian Medical Association, sent us the resolution that were passed at Nagpur for action and we have taken necessary action on all the resolutions submitting copies to the various authorities and we have received encouraging replies from some of them.

Our financial condition, as shown by the statement of account submitted, is satisfactory.

Our total balance on 1-3-36 is Rs. 226/11/3, out of which Rs 215/11/3 are in hand and Rs 11/- with Hon. Provincial Treasurer.

BHUPAL SINGH, B.A., M.B.

STATEMENT OF ACCOUNT

For the period 1-10-35 to 29-2-1936.

INCOME

Particulars		Amount			
By Balance on 1-10-35	...	Rs.	21	12	3
By Subscription from various branches	... ...	Rs.	619	4	0
By Contributions to Special Fund	... ...	Rs.	486	0	0
By Printing	... ...	Rs.	47	11	0
By Bank charges on cheques		Rs.	0	8	0
	Total	Rs.	1175	3	3

EXPENDITURE

Particulars		Amount			
To Central Fund	... ...	Rs.	318	0	0
To Typewriter	... ...	Rs.	392	4	0
To Salary	... ...	Rs.	95	0	0
To Printing	... ...	Rs.	71	11	6
To Postage and Telegrams	...	Rs.	63	4	6
To Stationary	... ...	Rs.	8	15	9
To Bank charges	... ...	Rs.	2	0	6
To Miscellaneous	...	Rs.	8	3	9
To Balance on 29-2-36 c/o	...	Rs.	215	11	3
	Total	Rs.	1175	3	3

CAPT. R. N. BOSE, M.B.,
Hon. Provincial Jt. Secretary.

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Proceedings of a meeting of the Working Committee held at Meerut on the 18th April, 1936, at 4-30 p.m.

Members present.—Dr. S. Halder, L.M.S., of Muzaffarnagar—Vice-President—In the chair.
Dr. R. C. Mitter, Meerut.
Dr. J. L. Caroli, Meerut.
Dr. Kunj Behari Lal Varma, Meerut.
Dr. Bhupal Singh, B.A., M.B.,—Hon Provincial Secretary.
Dr. R. N. Bose,—Hon Provincial Joint Secretary.

I. Proceedings of the last Provincial Council's meeting were confirmed.

II. Accounts for March, 1936 were passed.

III. The Hon. Provincial Secretary then told the meeting all about the deputation which waited on the Hon'ble Minister on 13-3-36 and subsequent developments in the Legislative Council on 28-3-36 in connection with the question of Poisons' Rules.

The following resolutions were then passed:—

(i) (a) As the Hon'ble Minister in charge of the Medical Department Stated on the floor of the U. P. Legislative Council on the 27th March, 1936, that he would call a Conference of representatives of the Indian Medical Association and the U. P. Medical Council and party leaders in the Legislative Council before the June session of the Council to consider and decide the question of Poisons' rules affecting the qualified practitioners, this Working Committee of the Indian Medical Association, U. P. Provincial Branch, hereby resolves that the members of the Anti-Poisons' Rules Sub-Committee namely Drs. Bhupal Singh, Dr. Kunj Behari Lal Varma and Dr. R. N. Bose, who are coversant with the details of the Poisons' Rules, be elected to represent the Indian Medical Association, U. P. Provincial Branch in the proposed Conference and that Government be requested to include the above named representatives in the Conference.

(*b*) Resolved that this Working Committee of I. M. A., U. P. Provincial Branch requests its Honorary Provincial Secretary to communicate with the Government immediately in connection with the foregoing resolution.

(ii) This Working Committee is of opinion that the Hon. Provincial Secretary's definition of an open Chemists' shop in his draft amendments to Poisons' Rules as communicated by him with the Demi-official letter No. P/673, dated 16-3-36 to Mr. Reid, the Secretary, U. P. Government is not in keeping with the definition of an open shop as given in the Code of Medical Ethics made by the U. P. Medical Council, and hence the Committee resolves that it should be read as follows:—Open Chemists' shop—i.e. one for sale of medicines, medical and surgical appliances etc., other than those prescribed by a medical practitioner possessing registrable qualifications.

(iii) In consideration of the serious nature of the Poisons' Rules as affecting the entire independent medical profession in U. P. this Committee resolves that no communications in connection with the Poisons' Rules in future be addressed to the Government without consulting the Committee.

IV. Resolved that the draft amendments to rule No. 18 as circulated by the Calcutta Head Office *vide* Resolution No. 10 of the Central Council meeting held at Delhi on 17-2-36 be recommended for adoption.

V. Read the circular letter of Calcutta Head Office, dated 20-3-36 inviting suggestion of suitable delegates to attend the British section of the International Conference of Physical Medicine (1936) at London.

The Committee noted the contents of the letter.

VI. Resolved that a Sub-Committee consisting of Dr. Bhupal Singh, Dr. Kunj Behari Lal Varma and Dr. R. N. Bose be formed to draft amendments to the U. P. Medical Council Act and the Code of Medical Ethics.

VII. Resolved that a Sub-Committee consisting of Dr. R. C. Mitter, Dr. J. L. Caroli, Dr. Kunj Behari Lal Varma and Dr. R. N. Bose be formed to draft a scheme for Hony. Physicians and Surgeons' appointments in the Government Hospitals and dispensaries.

VIII. (a) The Agra Branch Secretary's postcard dated 2-4-36 forwarding a copy of that branch's resolution regarding inclusion of Medical Psychology in the course of studies in the Agra Medical School and Lucknow Medical College was postponed to next meeting for consideration.

(b) A letter No. 1/3214, dated 16-4-36 from Messrs. D. Gestetner was read.

Resolved that the question of purchasing the Rotary Automatic Duplicator be put off till funds are available.

(c) Babu Jagmohan Prakash's application for the eight inches table fan for his office was not approved by the Sub-Committee.

With a vote of thanks to the chair, the meeting dispersed.

R. N. BOSE,

For Hon. Provincial Secretary.

BENGAL PROVINCIAL BRANCH

Minutes of proceedings of a meeting of the Indian Medical Association, Bengal Provincial Council, held on Sunday, the 29th March, 1936, at 7 p.m. at the Association Hall.

Members present:—

Lt.-Col. K. K. Chatterji (in the chair).

Drs. J. N. Bose, S. C. Sen Gupta, T. N. Ghosh, J. N. Dutt, P. C. Chakraborty, P. C. Rakshit, B. K. Ghosh (Barrackpore), A. K. Chakraborty, J. C. Banerjea, A. D. Mukherji, Bolin Ghosh, D. P. Ghosh, C. C. Basu and A. K. Sen.

1. The letter dated 29-11-35 from the Secretary, Birbhum Medical Association, wishing to discontinue their affiliated branchship, was placed before the meeting. It was resolved that the consideration of the matter be postponed to a later date.

2. The letter dated 2-12-35 from the Local Secretary, Murapara Medical Association, seeking affiliation to the Indian Medical Association, Bengal Provincial Branch, was placed before the meeting. It was resolved that no affiliation can be granted under the existing rules of the I. M. A., Central Council, and that a copy of the relevant rule be forwarded to the Secretary, Murapara Medical Association. It was also resolved that the Dacca Branch be requested to approach the said Association and try to enlist the qualified practitioners as members of the Dacca Branch.

3. Resolved that the resolutions as passed at the Nagpur Conference be recorded. It was further resolved that a sub-committee be formed consisting of Drs. A. K. Sen, P. C. Rakshit and P. C. Chakraborty to consider the draft rules for the procedure of submitting resolutions to the Annual All-India Medical Conference and the Annual General Meeting and to submit their opinion at the next meeting of the Provincial Council.

4. Resolved that the resolution as passed at a meeting of the Bombay Medical Union held on 21-2-36 be recorded.

5. The letter dated 2-3-36 from Dr. Devendra Nath Mukherjee of Burdwan was placed before the meeting and it was resolved that the Secretary be requested to send a suitable reply to it.

6. The letter dated 3-3-36 from the Hony. Secretary, Indian Medical Association, Calcutta Branch, was placed before the meeting and it was resolved that a sum of Rs. 60/- be paid per annum to the Calcutta Branch as house rent, telephone and electricity charges.

7. Resolved that the Secretary and the Treasurer be requested to inspect the statement of accounts for the period from 1st October, 1935, to 29th February, 1936.

8. The election of the following two new mofussil members was recorded:—

(1) Dr. K. Hazra, Howrah.

(2) Dr. Radhakanta Goswami, Hooghly.

9.(a) Resolved that the Secretary be authorised to call meetings of the Bengal Provincial Council, when necessary.

(b) Resolved that an account be opened at the Comilla Union Bank, Ltd., Calcutta, in the name of Indian Medical Association, Bengal Provincial Branch, and that the local Joint Hony. Secretary, Dr. A. K. Sen and the Treasurer, Dr. A. K. Chakraborty, be authorised to operate on the account. It was further resolved that a copy of the resolution be forwarded to the Comilla Union Bank, Ltd., Calcutta, for their information.

With a vote of thanks to the Chair, the meeting terminated.

A. K. SEN,
Jt. Hony. Secretary.

K. K. CHATTERJI,
Chairman

BEHRAMPORE MEDICAL ASSOCIATION

The following office bearers were elected at a meeting of Behrampore Medical Association on the 18th April, 1936:—

President.—Dr. B. V. Narasimham, L.M. & S.

Secretary.—Dr. M. V. Ramanayya, L.M.P.

Members.—Drs. P. Rajeswara Rao, M.B.B.S., G. Krishnamurty, L.M.P., N. Sreenivasa Rao, L.M.S., P. Satyanarayana, L.M.S., R. M. Patnaik, L.M.S., K. Chandra Rao, M.B.B.S., W. S. S. Rama Rao, M.B.B.S., Y. Venkata Rao, L.M.P., G. Jagannadhadas, L.M.P., B. Rath, M.B.B.S. and P. Adams, L.M.P.

The election of the representative to the Central Council of the I. M. A. will take place later.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION

The Tinnevelly District Medical Association held its monthly meeting on Saturday the 25th April, 1936 at Tiruchendur. A Health Exhibition was arranged at the Board High School. Tiruchendur, at 9-30 a.m. Lieut.-Col. T. S. Shastry, I.M.S., welcomed the guests, and requested Mr. Bryant, I.C.S., Sub-Collector of Tuticorin, to open the Exhibition. Mr. Bryant, I.C.S., expressed in a short speech that such Exhibitions are very useful, instructive and beneficial to the masses and expressed his "high appreciation of the activities of the Tinnevelly District Medical Association under the vigorous guidance of Lieut.-Col. T. S. Shastry, I.M.S." Temple Superintendent Mr. Muthiah Pillai, B.A., B.L., explained in Tamil the gist of Colonel Shastry's address on the need and use of this monthly Health Exhibition. Dr. K. Govinda Ayyar, L.M.P., gave an interesting lecture in Tamil on the prevention and causation of Tuberculosis, Flies and Mosquitoes and Cholera, explaining in easy Tamil for the benefit of about 200 little boys and girls of the local schools the posters on the subjects which were exhibited on the walls. The Exhibition was kept open to the public till late in the evening. The exhibits consisted of posters relating to cholera, tuberculosis, malaria, small-pox, fly-danger, etc. This was very much appreciated by the public particularly by the teachers, on behalf of whom the Deputy Inspector of Schools Mr. Sankara Iyer, offered hearty thanks to the Tinnevelly District Medical Association.

Members numbering 33 including 3 lady doctors were present. Four members of the Tuticorin Medical Union and one member of the Ramnad District Medical Association graced the function.

After tea and music with 'Jalatarangam' between 5 and 6 p. m. the meeting began under the presidentship of Lieut.-Col. T.S. Shastry, I.M.S., the President of the Association who presided over the Business Meeting of the Association—the Medical Meeting having been presided over by Dr. K. Srinivasaraghava Ayyangar, L.M. & S., Civil Surgeon Tuticorin and President of the Tuticorin Medical Union.

Resolution regarding the demise of Dr. C. Appavoo Pillai, L.M. & S., a senior member of the profession was passed. The Secretary Dr. K. Rama Ayyar, M.B.B.S., read the minutes of the monthly meetings held at Nanguneri, on 29-2-36, and at Neyyur on 21-3-36 and the special meeting held at the premises of the Vannarpet Hospital on 30-3-36.

The following resolution regarding the King George Memorial Fund was unanimously passed:—

"As the enormous prevalence of 'Cancer Disease' is coming more and more to light, with the increasing popularity of modern medical institutions and the increasing knowledge of the doctors to detect the condition,

As the treatment of Cancer Disease by other than serious operations is possible only by means of "Radium" which is the most costly drug and beyond the purse of any individual Doctors or of even the District Board or the Government,

As the purchase of 'Radium' is possible only if Funds are collected on a large scale, and under Government patronage,

The Tinnevelly District Medical Association considers that the present opportunity of the King George Memorial Fund can be utilised best for the treatment of 'Cancer Disease' and requests His Excellency the Governor to devote this Fund entirely to the purchase of Radium and starting of one Special Cancer Clinic at each District Head Quarters Hospital and also to start a large Cancer Hospital at Madras.

2. It is further suggested that all the members of the Medical Profession in the whole of Madras Presidency should take an active interest in the collection of Funds for 'Cancer Relief' as suggested above.

3. It is further suggested that His Excellency the Governor may graciously permit that 80 per cent. of the collections of each District and that not more than 20 per cent. of the collections may be sent up to the Presidency Committee at Madras, thus avoiding the system of double transaction adopted in connection with the Silver Jubilee Fund last year with all its attendant uncertainties and difficulties and delays.

4. Lastly the Tinnevelly District Medical Association considers that Special Propaganda is needed to educate both the Doctors and the General Public on the large prevalence of Cancer and the need for its early detection and treatment as early diagnosis and treatment result in definite and permanent cure."

Then the Medical Meeting was held under the Presidentship of Dr. K. Srinivasaraghava Ayyangar.

Dr. T. K. Nilakanta Ayyar, L.M.P., read clinical notes of the following cases, which were operated on by Lt.-Col. T. S. Shastry, I.M.S., at the Head quarters Hospital, Palamcottah:—

1. Gastric Ulcer, for which disconnection (Eiselsber's) operation with gastro-jejunostomy, was done.
2. Gastric Ulcer, with stenosis of pyloric ring, partial gastrectomy and gastro-jejunostomy (Moynihan's) was done.
3. Duodenal Ulcer with gall stones and extreme stenosis of the pyloric ring—for which partial gastrectomy and gastro-jejunostomy (Polyas's) was done.

Dr. Mrs. Amirtharaj, M.B.B.S., of Tuticorin read notes of a case of Cancer Breast (Female) which was operated on by the Civil Surgeon at the Government Hospital, Tuticorin.

Then Dr. Subramania Ayyar, M.B.B.S., of Karaikudi, demonstrated to the audience the full apparatus for testing Blood-sugar made by Carl Zeiss. Dr. P. Ramalinga Nayanar, L.M.P., of Srivaikuntam, read a most interesting and learned paper on "Revolution in Surgery".

Lt.-Col. T. S. Shastry, I.M.S., offered thanks to Dr. J. T. Moses, Sub-Assistant Surgeon of the Local Fund Dispensary, Tiruchendur, and to his fellow-members for the splendid arrangements for the meeting.

Thereafter Lt.-Col. T. S. Shastry, I.M.S., summed up the salient and important features of all cases and addressed and clearly explained the modern operative treatment of gastric and duodenal ulcer. He also appealed to the medical profession to do their best for the relief of cancer in the District, and proposed a hearty vote of thanks to Dr. K. Srinivasaraghava Ayyangar, Dr. Subramania Ayyar, and Dr. Amirtharaj.

Thereafter an excellent dinner brought the happy gathering to a close at 11 p.m.

K. RAMA AYYAR, M.B.B.S.,
Secretary and Treasurer.

TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION

A monthly meeting of the above Association was held at 5 p.m. on Saturday the 29th March, 1936 in the E. R. High School, Trichinopoly when about 35 members were present. Rao. Sahib. Dr. T. C. Joseph, Municipal Health Officer, Trichinopoly presided on the occasion. Dr. N. S. Krishnamurthy was 'At Home' to the members.

Fraternal greetings on the occasion of the Annual Gathering of the Chettinad Medical Association was moved from the chair and carried unanimously. The Secretary welcomed Dr. T. R. Subramanya Iyer of Manapparay who had newly joined the Association. Dr. V. Subramanyam Hon. Dental Surgeon of the Government Head Quarter's Hospital delivered an interesting lecture on 'Oral Hygiene'. He impressed upon the necessity of having a clean mouth with healthy gums and teeth. He also explained the various methods of keeping them neat and clean. He traced the various diseases which were duly due to the unhealthy condition of the mouth. Dr. T. S. Balasubramanyam spoke a few words on the necessity of having a balanced diet with adequate vitamins and said that hand pounded rice was not only more useful for general health than mill polished rice but also for the gums and teeth. With a few remarks from the chair and a vote of thanks to the host. President, lecturer and the Manager of the E. R. High School for lending the premises the meeting terminated.

P. A. S. RAGHAVAN,
Secretary.

* * * *

A monthly meeting of the above Association was held at 5 p.m. on Sunday the 26th April, 1936 in the Coronation Gardens, Trichinopoly when about 30 members were present. Rao Sahib Dr. T. C. Joseph Municipal Health Officer was 'At Home' to the members and Dr. T. S. Balasubramanyam M.B.B.S. presided.

Dr. Balammal, M.B.B.S., delivered an interesting lecture on 'Placenta Praevia' in which about half a dozen members took part.

The meeting terminated at a late hour with a vote of thanks to the host, the lecturer and the owners of the Gardens.

P. A. S. RAGHAVAN.
Secretary.

MOTIHARI BRANCH

Proceedings of the Annual General meeting of the Motihari District Branch of Indian Medical Association held on the 26th April, 1936.

Present:—Rai Bahadur Dr. T. C. Guha, Rai Bahadur Dr. Thakur Ramdhari Singh, Drs. Harishanker Prasad, Nalin Chandra Sirkar, Shyamkata Varma, R. L. Banerjee, Ramautar Prasad, Kanti Bhusan Banerjee, P. K. Roy and A. K. Guha.

1. Proceedings of the last meetings were read and confirmed.

2. The following were unanimously re-elected office bearers for the year 1936-37:—

Rai Bahadur Dr. T. C. Guha—*President.*
Dr. Hari Shanker Prasad—*Secretary.*
Dr. R. L. Banerjee—*Joint Secretary.*

3. The following gentlemen read papers:

Dr. A. K. Guha—Calcium Metabolism.
Dr. P. K. Roy—Vaccination.

SECRETARY'S REPORT

The District branch of the Indian Medical Association was formed on the 23rd April, 1935, when Col. Bholanauth (retired I.M.S.) visited Motihari. Since then it is carrying out its work satisfactorily. The following were elected office bearers:

President.—Rai Bahadur Dr. T. C. Guha.

Secretary.—Dr. Harishanker Prasad.

Joint Secretary.—Dr. R. L. Banerjee.

Members.—Rai Bahadur Dr. Thakur Ram Dhari Singh, Drs. Nalin Chandra Sirkar, A. K. Guha, Narayan Prasad, Shyamakant Verma, P. K. Ray, H. C. Lahiri, Sarayu Prasad, Kapileshwari Prasad Sinha, Girindra Kumar Mitra and Kanti Bhusan Banerjee.

The branch enlisted fourteen members during the year and it held four general and two special meetings in which the following papers were read:—

1. Mode of development of red blood cells and the light it throws on the etiology and treatment of all anaemias.

2. Therapeutic uses of Insulin.

INCOME & EXPENDITURE

RECEIPTS

1. Subscription from members	Rs.	53	0 0

EXPENDITURE

1. Annual contribution to I.M.A.	Rs.	39	0 0
2. M. O. Commission ...	Rs.	0	8 0
3. Stationary	Rs.	2	2 0
4. Stamps	Rs.	0	12 3
5. Entertainments	Rs.	6	0 0
Total	Rs.	48	6 3
Balance in hand	Rs.	4	9 9

I have got very little to say in my annual report. The members on the list are few only and it requires enlistment of more members to carry on the work satisfactorily. Nearly all the doctors of the two towns in the district are members but the doctors in moffussil are not coming forward to be members. Therefore it is the duty of every present member to impress upon the moffussil doctors the aims and objects of Indian Medical Association and to enlist them as members. Our financial position is very poor and this is due to smallness in number of members. If members increase then our financial position will gradually be in a good condition. On account of financial stringency we could not send a delegate to the All India Medical Conference at Nagpur. We are very much thankful to Dr. A. K. Guha, M.R.C.P., M.R.C.S., etc., who kindly reads interesting papers.

HARISHANKER PRASAD,
Hony. Secretary.

BATALA BRANCH

The inaugural meeting of the Batala Branch of the Indian Medical Association was held on Saturday, the 18th April last. Most of the qualified independent practitioners of Batala were present.

Dr. Balbir Singh, organising Secretary, Punjab Branch, and some guests from the Amritsar Branch were present, prominent among whom was Dr. Manohar Lal Chopra, Vice-President, I.M.A., Amritsar Branch.

Dr. Balbir Singh delivered a speech. After this the following office-bearers were elected: Dr. Mulk Raj Singh, President; Dr. M. L. Sawrup, Secretary and Treasurer; Dr. Daulat Ram Bhalla, Member of the Executive Committee.

Tea was then served to the members.

DELHI BRANCH

Proceedings of the Annual General Meeting held on 29th April, 1936 at 7 p.m. at the Delhi Medical Association House, Daryaganj, Delhi.

Third Annual General meeting of the Indian Medical Association, Delhi Branch was held on Wednesday the 29th April, 1936 at 7 p.m. at D.M.A. House, Daryaganj, Delhi. Dr. J. K. Sen was in the Chair and sixteen members were present.

1. The Secretary read the Annual Report for the period 1st January, 1935 to 30th September, 1935.

Resolved that the report may be adopted.

2. Annual statement of Accounts duly audited was placed before the house and resolved that the statement be passed.

3. The house then unanimously elected the following Officebearers and members of the Executive Committee:—

President.—Dr. J. K. Sen, L.M. & S.

Honorary Secretary & Treasurer.—Dr. G. N. Khanna, M.B.B.S.

Members.—Drs. P. N. Bhargava, M.B., M.R.C.P. Mrs. C. Solomon B.A., M.B., B.T., B. C. Sen, L.R.C.P. & S., Shiv Ram Chopra. M.B.B.S., S. C. Sen, M.B., D.M.R.E., A. Roy Chowdhury. B.Sc., M.B., S. N. Mitter, D.O.M.S.

4. The house then discussed the decision of the joint Library Sub-committee of Delhi Medical Association and Indian Medical Association regarding a library and resolved that the decision arrived at by the joint meeting on the 6th April 1936, is approved in *toto* and is as follows:—

(a) That the Indian Medical Association Delhi branch is prepared to contribute a sum of Rs. 500/- (Rupees five hundred only) towards a library provided the Delhi Medical Association contribute an equal amount.

(b) That the library will be open to the members of both the bodies i.e., D.M.A. & I.M.A. Delhi Branch, rules being framed jointly by the representatives of both.

(c) It is hoped that the I.M.A. will have the privilege of using the Association building for its function free of all charges.

Further resolved that the next Executive Committee will elect two members to act as representatives of the branch for the Joint Committee.

5. President then addressed the house in short and gave his suggestions for increasing the membership and said that the apparent lethargy was due to the activities of the members being directed to D.M.A. which we all have the honour to belong and that we should find means to amalgamate the two in near future in order to escape double taxation.

With a vote of thanks to the Chair the meeting dissolved and was followed by the Annual Dinner in which twenty members participated.

G. N. KHANNA,
Honorary Secretary.

ANNUAL REPORT

From 1st January, 1935 to 30th September, 1935.

President, ladies & gentlemen,

On behalf of the Executive Committee I have much pleasure in submitting the report for the financial year ending 30th September, 1935.

The Delhi Branch of the Indian Medical Association has been in existence for over three years now. It has a total membership of 34. Three members resigned, four had to be removed due to non-payment of arrears, one died and four new members joined during the year. Executive Committee members are as follows:—

President.—Dr. J. K. Sen, L.M. & S.

Honorary Secretary & Treasurer.—Dr. G. N. Khanna, M.B.B.S.

Members.—Dr. Mrs. S. C. Solomon, M.B.B.S. (Representative on Central Council) Drs. S. C. Sen, M.B.B.S., D.M.R.E., Mool Singh Bazaz, M.B.B.S., A. Roy Chowdhury, M.B.B.S., S. N. Mitter, M.B., D.O.M.S., P. N. Sen, M.B.B.S. and Raghubir Chand M.B.B.S.

During the year two ordinary, four special, two Executive Committee meetings and one Annual General meeting were held. Financial position of the branch is quite sound, showing a closing balance of Rs. 856-10-9 at the end of the year. But there is a sum of Rs. 68/- still due as arrears from the members. Members would have increased if the Punjab Government had removed the ban on Government servants against joining the Association.

Our achievements this year, have been nil. This lethargy is specially noteworthy after a pretty active Conference year. Our meetings have been fewer than the past years and every meeting had to be started after a considerable delay due to want of chorum. Ladies and gentlemen, how long are we to go on like this: We have to sit together some day and discuss ways and means to increase the membership and infuse more of fresh blood into the Association.

In order to make the best use of our profits earned at the XI-All India Medical Conference the branch decided to make an offer of a sum of Rs. 500 to the D.M.A. last year for a Library with certain provisions. The subject is before you to-night for consideration and a final decision. If approved by the house the sum will be handed over to the D.M.A. and we have every hope of having a well-equipped library in the near future.

Before concluding I heartily thank all the members specially the President and the Executive Committee for their kind co-operation and guidance. Gentlemen, we regret our hopes of the past year to see the two Associations amalgamated into one are still in the air. You still see the two bodies running separately although the members are common. Something has to be done this year in this direction, so as to save the members from an extra taxation during these days of economic depression. Lastly we are extremely thankful to the President and members of the D.M.A. for giving us all the courtesy and facilities during the past year.

G. N. KHANNA,
Hony. Secretary.

STATEMENT OF ACCOUNTS

From 1st January, 1935 to 30th September, 1935.

INCOME

1. Last balance ...	Rs.	134	6	9
2. By subscription local ...	Rs.	66	4	0
3. Central Council contribution	Rs.	65	12	0
4. Income by Annual Conference	Rs.	713	15	0
5. Sundries	Rs.	0	0	0
Total	Rs.	980	5	9
Expenditure	Rs.	123	11	0
Total balance	Rs.	856	10	9

EXPENDITURE

1. Establishment ...	Rs.	14	0	0
2. Central Council Contribution	Rs.	90	0	0
3. Stationary	Rs.	0	1	0
4. Postage	Rs.	3	7	6
5. Sundries	Rs.	3	7	6
6. Refreshments	Rs.	12	11	0
Total	Rs.	123	11	0
Balance in hand	Rs.	856	10	9
Grand total	Rs.	980	5	9
Subscription in arrears upto 30th September, 1935 ...	Rs.	68	8	0
With Central Bank of India 'Current'	Rs.	636	15	9
Cash with Hony. Treasurer	Rs.	219	11	0
Total	Rs.	856	10	9

G. N. KHANNA,
Hony. Secretary & Treasurer

Checked and found correct.

RAGHUBIR CHAND,
Honorary Auditor.

SHOLAPUR BRANCH

The following condolence resolutions were passed in the monthly meetings of the Sholapur Branch of the Indian Medical Association:—

"This meeting of the Indian Medical Association, Sholapur Branch expresses sorrow at the premature death of Dr. Narendranath Basu, in whom not only Calcutta has lost a rising gynecologist but the Indian Medical Association has lost a great organiser and extends sympathies to the bereaved family."

"This meeting of the Indian Medical Association, Sholapur Branch mourns the loss caused by the death of Col. Bholanauth, I.M.S., who has done yeoman's service to the cause of the Indian Medical Association and expresses sympathy to the family of the late Col. Bholanauth."

MEDICAL ASSOCIATIONS, SOCIETIES, ETC.

Medical Associations, Societies, Unions, etc., are invited to make use of this section of the Journal.—EDITOR.

GOVERNMENT OF INDIA LEGISLATIVE ASSEMBLY DEPARTMENT

The following Bill was introduced in the Legislative Assembly on the 17th April, 1936:—

L. A. Bill No. 22 of 1936.

(A Bill to amend the Indian Medical Council Act No. XXVII of 1933.)

Whereas it is expedient to amend the Indian Medical Council Act No. XXVII of 1933; it is hereby enacted as follows:—

Omit the word "Higher" in the preamble of Act.

1. This Act may be called the Indian Medical Council Amendment Act. 1933.

2. It extends to the whole of British India.

3. It shall come into force on such date as the Governor General in Council may, by notification in the Gazette of India, appoint.

4. In clause 3 (1) add new clause (d) as under:—

(d) One member from each province where a provincial register is maintained, to be elected from amongst themselves by persons enrolled in the Register.

Clause (d) of the old Act to be reconstituted as clause (e) and amended as under, if the latter provision in new clause (d) is not acceptable.

(e) Six members to be nominated by the Governor General in Council of whom three shall be Lincense-holders and having been elected already by the All-India Medical Licentiates' Association.

In the first schedule below the Punjab University and as an additional item add:—

Medical Schools recognised by the Provincial Government.	Medical Diplomas recognised by the Provincial Government and the Provincial Medical Councils.

Statement of Objects and Reasons

Ever since the Indian Medical Council Act of 1933 came into force, the discontent among that large and important class of medical men known as L.M.Ps. had become deeper and deeper. This state of affairs cannot be allowed to continue long.

(2) It is but right that the All India Medical Council should be seized with the problem of setting right the medical standards in this country and unless this Medical Council for India exercises its central control and authority over Medical Education in Medical Schools, as it does at present with that of the University Medical Colleges, the Provincial Governments who are in sole charge of Medical School education are not likely in near future to bestow the desired and much needed attention.

(3) It is unimaginable that a vast body of medical men who are entitled to practise by law and statute of the Provincial Governments and who are recognised by the Provincial Medical Councils as legally qualified medical practitioners should be denied their legitimate right of being included in the All-India Medical Council.

(4) It is patent that if the Medical Council for India has to justify its title it must include within its scope the Medical Licentiates who form a preponderating majority of medical men with responsible official and public situations.

(5) It may be mentioned, the original intention as was proposed in the draft Bills previous to the passing of the Act in its final form, was to constitute a Medical Council in India in order to establish a uniform standard of qualifications in Medicine for all provinces, but that this laudable proposal was given up at the selfish behest of the General Medical Council.

It is therefore now proposed by the above amending Bill to make the Indian Medical Council Act No. XXVII of 1933 more comprehensive and equitable and make it acceptable to the Indian

medical profession. I strongly commend it for the favourable consideration of this Assembly.

ANUGRAH NARAYAN SINHA

(Gazette of India, April 25, 1936).

Md. Rafi.,
Secy. to the Govt. of India

PROCEEDINGS OF THE LEGISLATIVE ASSEMBLY

The following are extracts from Dr. T. S. S. Rajan's speech in the Legislative Assembly made on 17-3-36 on the Finance Bill:—

....."Now, my Honourable friend, in connection with the grant of ten lakhs to the Indian Research Fund Association, says:—

'Health is a vital factor in measures aiming at a general improvement in the conditions of village life, and to ensure that the benefit of these ten lakhs goes primarily to the rural population, the Association will be required to devote the amount mainly to schemes connected with the prevention or cure of Malaria.'

Well, Sir, it is a pity, as I mentioned last year that we do not have a Cabinet Minister who is a medical man, and most of us in the Assembly, barring a few exceptions, are laymen. But I am glad to find that the Honourable the Finance Member has been persuaded or convinced of the fact and is taking measures in this direction. Sir, in my speech on the Finance Bill, last year, I drew the attention of the Honourable the Finance Member to the economic conditions and to the problem of the physical well-being of the people of this country, and malaria is perhaps the one source of disease which incapacitates a large number of people apart from the number of deaths that it causes either immediately or ultimately. I have before me large volumes of valuable reports from the Indian Research Fund Association and the articles written by Colonel Sinton and his co-workers which have been embodied in these reports. If these reports and the standard Government publications are of any value, I want you, Sir, to see what a miserable pittance this amount of ten lakhs is which has been included within the budget for the relief of a suffering which, perhaps in its essentials, has no comparison whatsoever, for let me tell this House the real condition that prevails in India to-day. According to these reports before me, there are roughly 100 million people in this country suffering annually from malaria; out of a population of 365 millions, as many as 100 millions suffer from malaria annually. (Interruption.) I will tell my Honourable and gallant friend, Col. Gidney, that these figures are from the Government reports that I have before me and I will quote chapter and verse. Of these, two million deaths are directly due to malaria. Indirectly, due to the effects of malaria—I do not say directly—75 million cases have been reported ill and incapacitated on account of malaria. Again, I am speaking from records. In his report as late as 1933, Colonel Megaw says:—

"The span of life in India is less than half of what it might be."

I am not talking here of England, I am talking of India. I say, on the authority of Colonel Megaw, that there is a possibility in this country of the lives of our people being doubled. That is the statement he makes from a record of malaria survey in this country. I would take you, Sir, a step further and ask you to consider what this doubling of life of our nation means economically to the Finance Member who is interested in figures and in the economic loss that we sustain on account of this disease in the country. The average income in this land has been computed to be Rs. 3¾ per mensem. It has been calculated that out of these 100 million sufferers from malaria, they have been incapacitated by half a month in a year on account of this illness. According to this report the total loss calculated to the revenues or to the economic condition of this country is 1,900 lakhs, According to the Simon Commission Report, it is computed to be 4600 lakhs. This is the actual economic loss due to the suffering, due to the illness; but there is a period of suffering not from illness but from the effects of illness which, in its turn, produces enormous economic loss. That has been computed roughly and the loss due to post-malarial inefficiency is computed to be 7,425 lakhs. This is the loss in the economic income of the individual and to the family when an earning man or some of those that are responsible for the economic income of the family are taken away or laid down by disease and according to the family Statistics of Malarial survey, the loss to the family has been calculated to be 10, 760 lakhs. If you would only go from the

individual and the family to the financial loss to commerce and industry and agriculture, you can possibly imagine the astounding and the staggering figures that you would arrive at and the economic loss that this country is suffering from on account of ill health—ill health, mind you. Sir, preventible ill health which has been prevented in many other countries in the world by proper steps being taken by Governments of the respective countries and which steps this Government have for long neglected in spite of the production of these voluminous reports. The financial loss to the commerce and industry of this country could not be calculated exactly but in the tea estates alone, where statistics are available, particularly in the Tea Estates of Assam, the capital value of the loss is calculated as Rs. 7,14,000 per annum. It works out to nearly 40 per cent. of the value of the estates without its labour force Malaria inhibits natural increase in the population, inhibits birth rate and what is more, hastens the death rate of the people of this country. It also does something more. It prevents the proper physical development and also hinders consequently the social, intellectual and political progress of the citizens of this land. Thirdly, there is the financial loss due to illness, diminished efficient loss of industrial development and failure to exploit the agricultural and mineral resources of this country. Sir, there is only one thing which I should like to bring to the notice of the Government with regard to the treatment of the reports of malarial survey. Treatment of malaria, medical men will understand, is under two heads, one is prophylactic and prevention of malaria and the second is treatment of malaria. The prophylactic and preventive treatment do save a lot of valuable lives, but the process of administering proper remedies to large millions of people who are affected by this disease is certainly a great problem. But I should like to know how the Government have tackled it. I can understand when the Honourable the Finance Member comes to us and says: "the finances of this country are bad, and therefore, we cannot afford funds and there are so many other schemes on my budget. I will let you do it when you get a good financial budget, because preventive measures do take a lot of time and care and investment of finances. It means reclaiming the water logged areas, draining the waterlogged sources, draining the ground in which malarial mosquitoes thrive". I understand all these things and I know they have been done successfully in many other countries, but no serious steps have yet been undertaken here.

There is another point to which I am driving. It is this. There is only one remedy which we know of and which acts effectively, and that is cinchona and its alkaloids. The quinine policy of this Government on which I tabled a number of interpellations, during the course of this Section, has revealed to me a most gruesome state of affairs. The quinine policy of the Government of India was started 70 years ago, with an absolutely philanthropic motive of producing cinchona for the benefit of those people of India who are suffering from malaria. I have already pointed out the devastating effect that this one disease of all diseases in this country, has upon the population and upon all the other things I have mentioned. To cure that ill, seventy years ago, the Government of India started on the policy of cultivating cinchona and getting alkaloids out of cinchona. What do we find there? The whole cinchona production has been developed into a commercial concern. It is not sold even for its output price. The other day the Honourable Member in charge of the portfolio made me understand that they make a profit of a very few annas on every pound. But, Sir, I have got before me the statistics of the conference of the medical research workers held last year, and they say that the Government of Bengal in that province have made a profit of four lakhs of rupees on the sale of quinine and its compounds. The provinces of Madras where cinchona is produced has made a profit of one lakh and what is more, they are expected to pay and are paying, a dividend first of all of 5½ per cent. Imagine, the Bank of India is only paying three per cent. today. They are selling quinine for suffering humanity, selling quinine for the very poor man who cannot afford the services of a doctor and to whom this quinine is supposed to be sold through the post offices. The post offices are made the medium of selling quinine simply because the poor man cannot afford a doctor. He has simply to go and pay the actual cost of the production of quinine at the office and get that quinine for his use. But mind you, Sir, the other day, I asked a question as to the price at which quinine is sold in the post office, and I was told that an inquiry has been sent to the Local Governments for information, and as soon as the information comes to the hands of the Honourable Member

I will be given the answer. But I can give the answer to this House and to the Government to-day; that I make it on the authority of the report that I have got that quinine in post offices is sold at the rate of 4½ annas per 20 tablets. Sir, I will tell you what it means. It really comes to Rs. 27 a pound of quinine while the cost of production of quinine is from Rs. 8 to Rs. 13-8-0. All told, inclusive of charges and interest and for profit on it, it does not exceed Rs. 13-8-0 and the rate at which it is sold in post offices is Rs. 27. If the Honourable the Finance Member really means to tackle the question of malaria, facts and figures are enough, enough to stagger anybody. And the method of treatment also has been proclaimed from house-tops from year's end to year's end; and even in other Legislatures the other day my Honourable friend, Sir Nusserwanji Choksy, drew the attention of this Government to its quinine policy. The other day, the Honourable Member told me that they hold as much as three lakhs of pounds of quinine in reserve in their hand, reserve to be kept in hand to see millions of our countrymen die day after day from a vile disease for treating which that quinine was made. Is this philanthropy, is this business, is this at least common honesty? I really fail to see where this policy of quinine supply in this country comes from. Who based it? It was understood and I have got the authority of Government to say, that it is absolutely meant for philanthropic purposes. Then why make this 100 per cent. profit by the sale of quinine through the post offices? I really fail to understand this. And, after all is said and done, only two per cent. of the people, who suffer from malaria, can go to the post offices and pay this meagre sum of 4½ annas. The poverty of our country is so great that we cannot buy even this quinine and from this population this Government makes a profit of 100 per cent. Well, Sir, you need not give us any money from our budget; at least first of all see that the quinine that you hold is given at actual cost prices, not at a dividend of 5½ per cent. And Government hold to-day 150,000 pounds in their hands: 150,000 pounds were sold last year at a profit.....

The Honourable Sir James Grigg: And 60,000 pounds were given away free.

Dr. T. S. S.—Thank you for the information, but what is that? Is is because you want to wash away your sins of 100 per cent. that you gave away this 60,000 pounds? You gave away 60,000 pounds free. It is all right, but my contention is that you ought to have given away the other three lakhs that you hold in your hands. Burma is going to be separated and your cinchona cultivation is simply going to be insufficient. Bengal and Madras are the two places where the plantations are growing. What I want Government to do is to invest these few lakhs on these. It is never going to relieve our malaria by these ten lakhs and your research workers have done enough work to make you invest another ten millions or a 100 millions. Therefore, your ten lakhs, if you only distribute it and invest it in production of further cinchona for the poor man of this land, you will find it pays you ten thousand times over. The life of our people will become double; the economic income of the Government will be enormous, and the family income, the national income and the consequent development of political and economic institutions in this country will be an asset. I beg you, Sir, to take this fact into consideration with regard to the quinine policy which Government have followed so far".

PUNJAB MEDICAL COUNCIL

Resume of the minutes of a meeting of the Punjab Medical Council held on the 30th April, 1936.

The council having met for the first time after the death of His Majesty the King Emperor George V, passed the following condolence resolution:—

> That this meeting of the Punjab Medical Council assembled on the 30th April, 1936, places on record its great sense of sorrow in the death of His Majesty the King Emperor George V and tenders its respectful sympathy to His Majesty the King Emperor Edward VIII and Her Majesty Queen Mary.

The resolution was passed all standing.

The council also placed on record its deep sense of regret at the death of Dr. Mirza Yaqub Beg, a member of the Punjab Medical Council and requested the President to convey to the bereaved family the condolence of the members of the Punjab Medical Council.

Lt.-Col. Amir Chand, I.M.S. and Dr. Vishwa Nath, M.A., M.D. were appointed to inspect the Medical School for Men, Ludhiana.

The question of appointment of a panel of members as visitors at the medical examinations was postponed *nem con.*

The Council adopted the following resolution of Dr. Gian Chand Blaggana and ordered that the resolution be properly drafted by the office of the Punjab Medical Council and sent to Government for approval:—

> "That this Council recommends to the Government to so amend the Indian Medical Degrees Act as to prohibit the use of title 'Doctor' by persons not possessing any recognised registrable qualifications entitling them to practise as Physicians, Surgeons, Obstetricians, Ophthalmologists, Dentists, and Veterinary Surgeons, exempting however from the operations of this proviso persons entitled to call themselves 'Doctors' on the strength of their scholastic attainments."

Dr. B. J. Sahni was appointed a member of the Punjab Central Midwives Board to represent the Punjab Medical Council *vice* the late Dr. Mirza Yaqub Beg.

K. B. Dr. Mir Hidayat Ullah was appointed a member of the Punjab Nurses Registration Council in place of the late Dr. Mirza Yaqub Beg, and he was also appointed a member of the Registration Sub-Committee of the Council *vice* late Dr. Mirza Yaqub Beg.

The question of allowing registered medical practitioners as visitors at the meetings of the Punjab Medical Council was postponed to the next meeting.

MADRAS MEDICAL COUNCIL

It has come to the notice of the Madras Medical Council that proceedings of meetings of some District Medical Associations in the mofussil are published in the lay press. The question whether the publication of such reports in non-professional journals is permissible has been considered by the Council and it has been decided that such publication is in the opinion of the Council, contrary to the Code of Medical Ethics, excepting in a few cases specially relating to Health Propaganda.

The Madras Medical Council therefore desires the Secretaries of all Associations to be informed that they should label discussions and lectures in their Agenda as not for lay press publication whenever this course is considered desirable from an ethical point of view.

—*The Antiseptic*, April 1936, p. 279.

HOWRAH MEDICAL SOCIETY

Dr. P. K. Banerji read a paper on "Our Hospitals" at a meeting held at the Duke Public Library, on 9th April, 1936. There was a good attendance and Dr. S.C. Dutt was in the chair.

Dr. Beni Charan Dutt pointed out many remediable defects and recommended that a deputation should wait on the Hon'ble Minister to place before him our view point. Keen discussion followed, in which Dr. J. Chakraburtty, Dr. T.P. Chatterji, Dr. A.T. Bose and others took part.

The following resolutions were then duly moved and passed unanimously.

1. That the realisation of Rupee one donation from outdoor patients at the Lady Dufferin Hospital be stopped.
2. That all patients, when discharged from a hospital should be supplied with all informations regarding diagnosis and treatment while in the hospital.
3. That, if asked, all informations regarding diagnosis and treatment of a case in hospital should be supplied to the private medical attendant of the patient.
4. That the private medical attendant or attendants, of a patient in hospital, should be given all facilities to watch the progress of the case and to be present in operations, done on the patient, if any.
5. That all outdoor patients should be provided with a ticket, on which, informations regarding diagnosis, pathological and x-ray findings and treatment should be recorded.
6. That, all letters of private practitioners sent along with a patient, giving the clinical

history and other informations relating to the case should be preserved along with other hospital records of the case.

7. Resolved that a deputation of three members be sent to the Minister of Local Self-Government, to place before him the medical practitioners' view point.

* * * *

The following is the text of Dr. P.K. Banerji's paper on "Our Hospital."

Historians say, that in India, Emperor Asoke was the originator of Hospitals. These ancient institutions were efficient and mainly tended the poor, among whom, they were popular. Our present day hospitals, however, cannot be said to be evolution of Emperor Asoke's "Arogyasrams". It can be safely said, that, this system of medical treatment of public, in institutions, had ceased to be indigenous, long before the coming of the Europeans, whose crude rudimentary efforts, to provide for themselves, some protection against and treatment during, the illness they were subject to, in unhealthy India, have resulted in the hospitals we see to-day. How the biggest of all Indian Hospitals, the Medical College group, came into existence, gradually increased in size and expanded into many different spheres of humanitarian activities, are recorded in that interesting volume published during this institution's centenary celebrations. Along with the hospitals, medical schools and colleges came to be established, turning out thousands of well qualified medical men and women, whose training, according some eminent tourers of world hospitals, is inferior to none. These medical practitioners, carrying the torch of light into the remotest corner of the country, by their skill and merit, have popularised, not only the system of scientific treatment, but, have popularised the hospitals also.

It is remarkable, how, one after another, big hospitals have been founded all over the country, specially in Calcutta,—how keen has become the present day race for conquering diseases, and though hampered in many ways, how the fighters for the cause of suffering humanity are carrying on the fight undaunted.

Modern discoveries have in many instances rendered inadequate, the one time adequate equipment of hospitals. Expensive paraphernalia have to be fitted to permit up-to-date treatment to be carried out. Moreover, the people of the country, who, at the beginning had a dread of the hospitals, thanks to the spreading knowledge, are becoming more and more hospital-minded, with the result, that hospital accommodation, which was sufficient before, is now quite insufficient and extensions after extension of the hospital buildings, have left accommodation far short of requirement.

Huge expenditures of money, initial and recurring, are necessary for the upkeep of the hospitals. Government and Municipal contributions, fee from paying cases, and donations from the public, are the main sources of income. Besides these, Hospital Day collection, receipts from charity matches, and subscriptions from various business concerns, help the hospitals. One women's hospital in Calcutta, connected with the name of a benevolent ex-Vicereine, realises one rupee donation, indiscriminately from each outdoor patient. A popular Minister, introduced sometime ago, a charge of one anna for one day's medicine prescribed at the outdoor. This is now stopped.

A perpetual shortage of funds has generated the tendency to run the hospitals, in a manner akin to Nursing homes. Restriction of beds, mostly for paying cases, has been done to such an extent, specially in non-official hospitals that the poor can hardly get admission. Charges for room patients have been greatly increased and for these cases a high charge has to be paid for extra nurses. For surgical operations, the paying patients have to pay an additional fee. All these may be good, supplementing, as they do, the income of the hospitals and by making the patients pay, perhaps, a right step has been taken to prevent abuse of hospital facilities.

These barriers have not however, succeeded in keeping back the rush of sundry patients, specially at the outdoor, who tax the hospital doctor to the utmost. Indian patients, with no record of previous treatment, with no ability to give a quick and intelligent and coherent version of the history of their illness, soon exhaust the equanimity of the doctor. When on the top of all, the stammering, nervous, circumlocutory patient, produces a letter from the family doctor, containing an enquiry, or, a statement of the case, the letter becomes the last

straw that breaks the camel's back. Very often than not, such a letter, causes the medical officer to fulminate, and with menacing facies, stamping of feet and furious exclamations,—is thrown out of window, the family physician's letter,—and the non-plussed patient,—if he does not simultaneously find himself pushed out, on to the road,—he should thank his stars. This is one of the present day pictures at any big hospital outdoor. From the indoor also, at times, filter out reports of assaults and neglet and maltreatment of bedridden patients. Our women's hospitals,—specially those worked by lady doctors, exclusively for the purdah patients, are worse, as regards shortness of temper. Courtesy entail no expenditure, but perhaps, want of courtesy is supposed by these hospital-lady-authorities, to save expenditure! Want of rest, want of encouragement by superiors, want of prospect of pecuniary improvement, create, even in a member of our learned and self-sacrificing profession, what may be called "the hospital temper". The psychology, of "hospital temper", is almost the same as that of a poor sickly Bengalee mother, who harassed by her own equally sickly, dissatisfied, crying and clamouring band of dirty youngsters, clinging her all the time,—thrashes them in her vain endeavour to pacify them!

This mentality, not at all defensible, is an evidence, that satisfactory hospitalisation of the country is still far away and the ideal cannot be reached in this poor country. It cannot be denied, however, that the overworked staff of the hospitals and the strain on their accommodation need relief, and for this purpose examination of schemes, effective and at the same time, least expensive, is profitable.

In England, medical relief of public is based on a plan of close co-operation between the hospitals and the outside medical practitioners, who are strongly united through the British Medical Association. In India, though the profession is not so organised, it may not be difficult to co-opt the independent medical practitioners in the cause of suffering humanity. These medical practitioners are former students of the schools and colleges attached to many of the big hospitals, where they have been trained. After completion of studies, they drift all over the country and create for themselves centres of diverse activities. They soon become the guide, philosopher and friend of many and always placing service before self, their influence with people becomes considerable. Though space and time may render wide the gulf between them and their educational institutions, they do not forget their Alma Mater. This is testified by the big attendences at the college and school re-unions of even old and decrepit medical practitioners from far away places, —and by the boyish enthusiasm displayed by the invitees to the function. Beyond the re-unions, it is regrettable, there is no attachment between the hospitals and the medical practitioners trained at the hospitals. Still, if careful enquiry is made, it will be found, that behind a non-chalant exterior, there is a tender spot, in the heart of every medical practitioner, for his school and college, and also, that, behind all the donations to the hospitals, exists, the benign influence of the family doctor of the donor.

From these medical practitioners, the rank and file of the hospital doctors are recruited. They man the hospitals, as seniors and juniors, visiting or house staff, and as stipendiary or honorary workers. They toil day and night, indefatigably, to maintain and enhance the reputations of the institutions they belong to.

Compared to the independent medical practitioners, the number of the hospital doctors is very small. The cases which the hospital doctors see, have, at one stage or another, been under the treatment of independent medical practitioners except emergency cases. This pre-hospital treatment in many cases may have been elaborate and up-to-date and it is certainly important, that a record of such initial treatment should reach the hospital doctor, at the time of admission. The family doctor having experienced the indignities, his letter provoked, has ceased to fortify his patients, visiting the hospitals, with the doctors' report. So, even after a prolonged and exhausting search for the previous history, the hospital doctor misses many important points, specially about the treatment. Similarly, when the patient is discharged from the hospital, and returns to his family doctor for after-treatment, the patient brings no record from the hospital, except, perhaps a reference number. The family doctor, whose reputation has been built by sheer hard work and who has not the protection of the walls of the hospital, has to waste a good deal of time, groping in the dark, and surmising, before he can determine on a proper course of

treatment, compatible with his reputation. The hospitals, also, for want of follow up system, have an incomplete record and it is no wonder, that in spite of an abundant supply of materials for researches, Medicine, in India, is making but slow progress.

This, obviously unsatisfactory arrangement, is not at all safe for the public, when it is remembered, that in these days of injections of various metallic preparations, the sera and other biological products, not only are repetitions, without knowing the history of their previous administration, dangerous, but lives are sometimes lost on account of the omission to supply the patients with records of their cases.

Again, many patients are discharged from the hospitals minus some internal organs, without any record. Much loss of money and disappointment, and at times, loss of life, result in an attempt to regulate or remove the organs, which do not exist, when the patient changes the doctor, or the hospital for the unrelieved, or, return of, symptoms.

Except at the re-unions, the hospital is closed to the independent medical practitioners. Improvement can only take place if better relation with the family doctor can be developed. Hospitals should be diagnostic institutions and places where only, important, emergent and indigent cases should be treated. The hospitals should encourage their patients, to come with a report from their family doctor and when the family doctor recommends a case for admission, if room permit and the case is serious, such recommendation should be considered. After the case is admitted, the family doctor should be invited to watch the progress of the case along with the hospital doctors. When discharged, copy of the record of the case, should be sent to the family doctor, through the patient and if desired, the after result of the case followed up, through the family doctor.

It will not do, to throw away the family doctor's report, which should be filed with the record. The supply of only a reference number, as at the Calcutta Medical College Eye Hospital, should be stopped. Instead, the old form should be re-introduced. On this form, the diagnosis, any pathological findings and the treatment should be noted. In all suitable cases, the patient should be asked to return with the paper to his doctor. The hospital pharmacopœia, which contains preparations like patent medicines, should be regularly published and kept for sale at well known shops. Every case accompanied by the doctor should receive early attention and not kept waiting unnecessarily at the outdoor. The Lady Dufferin-Hospital-method of exaction of the Rupee donation should be stopped.

All these will effect the real re-union of the alumni with their alma mater. European countries, on whose model our hospitals are worked, have strengthened their organisation for medical relief in the manner mentioned before, and it is high time, that Indian Medical Practitioners should try to raise our hospitals from the rut, into which, by a short sighted policy, they have fallen. The danger to public, the incomplete treatment and defective record of cases, are too serious to be allowed to continue. As in the west, our hospitals, consultants, general practitioners and all concerned in the medical relief of the public, should be links of one single chain, forged to bind down the demon of disease effectively. It is for us, medical practitioners now to move, to co-ordinate all the fighting forces against the common enemy,—Disease—, so that, the whole big army of fighters, can fight, with all its modern resources, as one man, under one supreme commander, *viz.*,—Service. It is only by such an organisation, that a speedy advance in the matter of health can be possible in this country, nnd this will at once relax the present great strain on the limited hospital accommodation and hospital finance and not drive these benevolent institutions to the questionable efforts of supplementing their funds.

* * * *

Dr. Beni Charan Dutt then dealt with his subject "Hospitals and Ourselves" in the following words:—

The subject under discussion has so many different aspects to deal with, that when the notice of the meeting was circulated, we failed to make out, what what would be the scope of the subject as also its purport. Here I have decided to deal with that aspect of the subject in so far as it relates to the outside medical profession as a whole, incidentally touching on the closely related points. Frankly speaking our present relationship with the hospitals is not a very happy one from more than one point of view. It is an undeniable fact that no cognisance is ever taken of the fact that a parti-

cular case has been sent by a medical practitioner nor is he ever apprised of facts relating to the diagnosis and treatment of the case even after the discharge of the patient. Apart from the question of common courtesy involved in it, the main point at issue, is that in the subsequent treatment of a case discharged from the hospital the medical practitioner finds himself in a deep sea as the past history of the case remains to him a sealed book. To take for instance a case which has been treated by serum, any definite information being lacking the medical practitioner countenances a lot of difficulty in the subsequent treatment of the case. Instances are not wanting when an organ has been removed wholly or partly without the knowledge or consent of the party. I know of at least one case where both the ovaries were removed in course of an operation and the party was kept in absolute darkness about the loss of the important organ. She came under my treatment two years after the operation for the treatment of amenorrhoea and the symptoms complex of ovarian dysfunction and it was after a diligent search and that of a backdoor nature that the true nature and extent of the operation was egged out. The situation was no doubt a perplexing one entailing a lot of hardship and confusion. The irresistible conclusion is that the hospital authorities do not care as to what happens to a patient after he or she is discharged unless of course it is presumed that patients would go back to the hospital whenever he or she happens to be ill again. Once a hospital patient always a hospital patient—a strange maxim no doubt.

Coming to the outdoor department, the practice so long prevalent was to furnish each patient with a script in which used to be jotted down the diagnosis and treatment of the case. Of late, however, some of the principal hospitals in Calcutta have discarded the system, replacing it by one which all patients are supplied with, *viz.*, a reference card. I do not know what particular advantage has been sought to be gained by the introduction of this novel system. Whether it facilitates to the smooth working of an institution is a point better known to the authorities concerned. The nett result of the practice has been to shut off from the patient and his private medical attendant if he happens to have any, all informations regarding the diagnosis and treatment of the case. The days of quacks and charlatans are over and medical science countenances no secrets to-day. As a matter of fact a patent medicine which does not publish its composition is declared as a quack remedy Strangely enough our hospitals have been taking recourse to a practice which is open to the charge of observing secrecy in the domain of practice of medicine. The question here arises are our hospitals forging ahead or reverting to the days of quacks and charlatans. It might be argued that a layman seeking aid in our hospital is concerned with the cure or alleviation of his ailments and any information regarding the diagnosis and treatment would neither be intelligible to him nor in any way appreciated. True; but how often don't we in our daily practice come across when persons having sought aid in a hospital have come back to us for subsequent treatment? There might be various factors into the details of which I need not enter here which actuate a patient to give up hospital treatment and seek private aid. Do the hospital authorities even here contemplate that once a person has come within its fold he must per force continue to keep himself in perpetual touch with the hospital? If so one must call it preposterous—if not why this secrecy then?

I happen to have no first hand knowledge of the state of things prevailing in England and the continent but from heresay from those who had the good fortune to visit the foreign countries and from stray writings in the press I can without any fear of contradiction assert that the relationship existing between the private medical practitioners on the one hand and the hospital authorities on the other is a very cordial one. There not only is the private practitioner informed of what is being done in respect of the case sent by him but is also asked to be present during operation if he so chooses.

Compare with this state of things prevailing here, not to speak of supplying any information, the private practitioner is denied any facility to watch the case unless of course he has the rare chance of being fairly acquainted with the physician or the surgeon as the case may be. But then it becomes a purely personal matter having no legs to stand upon. There is neither any written law nor any established convention on the subject. I hope I would not be held guilty of over stating the point if I were to presume that almost everyone of us here harbours a grievance in our hearts *viz.*, the hospital authorities have not treated us with that

amount of fairness and extended to us that amount of courtesy which is justly our dues.

It has been held in responsible quarters that the present none-too-happy relationship between the private practitioners and the hospital authorities is mostly due to the domination of an alien I.M.S. coterie who have neither any sense of courtesy left nor any love for the sons of the soil. Whether there is an element of truth in this wild accusation however remains to be proved. It was no less a person than the late lamented C. R. Das of undying memory who once gave out as his opinion that the cure of all the ills incidental to the treatment of the poor and indigent in the hospital lay in nationalising the hospital. It was perhaps this idea which led him to dedicate all his earthly belongings for the establishment of a hospital on purely national lines. Has his cherished desire been fulfilled? I pause for an answer. There is another big institution in Calcutta run on purely national lines. Is our position happier there too? Then why lay the blame at the door of the I.M.S. group? I am afraid there is something innately wrong in our present day system of running the hospital and it would require no small amount of tact and grill to bring out the many changes. Nor can it be achieved in a day unless of course a Hitler or a Mussolini comes to preside over the destinies of the hospitals.

I cannot conclude the subject without a passing reference to the treatment that is generally meted out to the people seeking aid in hospital. Here too I would not be very presumptive if I were to say that many of us here hold in our sleeves any number of cases where patients sent by us or known to us to have sought aid in a hospital have been dealt with—to say the least in a perfunctory way. It is said that our people are not hospital-minded? Pray why? If an institution meant for doing humanitarian work carries on its function with a true missionary spirit it is hard to believe that people will fight shy of it.

There is no doubt that our hospitals which have been ever enlarging their sphere of activities have been doing a lot of humanitarian work. What is wanting here is a more human touch—a contingency which no legislation can forestall nor force it upon those entrusted upon the job.

With what we are primarily concerned is the establishment of a more cordial relationship with the hospital and a spirit of mutual co-operation in the sphere of serving suffering humanity in all its bearings. As I have already pointed out our compatriots in other parts have been enjoying the bliss. Can we not aspire to attain the same standard? Fortunately for us the department is in charge of a popular and sympathetic Minister who has already earned the applause of the people by introducing many drastic reform in the administration of the hospitals and all it stands for. If we can effectively combine and convince him of the righteousness of a cause a lot can be achieved at least in these institutions which are directly or indirectly under Government supervision. Once we can bring out the necessary changes in those institutions—the others are sure to follow suit. I therefore propose that a deputation composed of at least 3 doctors to be selected by this meeting do wait upon the Hon'ble Minister-in-charge of Hospitals and place before him our view points.

PRIVATE MEDICAL PRACTITIONERS ASSOCIATION, BEHRAMPORE

Early in the morning of 15-11-1935, almost all the medical practitioners of Berhampore congregated at the Railway Station and heartily received Col. Bhola Nauth when the mail train arrived. He was taken to the Dak Bangalow where arrangements for his stay were made. After offering their most heart-felt condolences to the Colonel on his recent calamity, the practitioners had a short talk with the Colonel regarding their difficulties, and they left the bangalow to meet again in the evening.

At about 4 p.m. a tea party was given by the members of the Private Medical Practitioners' Association, Behrampur at Dr. B. V. Narasimham's Dispensary when all the members, Dr. Gregory of the Zenana Hospital, the Medical Officer of the Municipal Dispensary, and the Rural Medical dispensary Medical Officer of Bodokustali were present. The D.M.O. and all his staff were conspicuous in their absence.

After tea, Dr. B. V. Narasimham the President of the Association, read an address of welcome to Col. Bhola Nauth eulogising his services to the profession, and requested the Colonel to enlighten

them on the Indian Medical Association and its objects.

Thereupon the Colonel gave a forcible and effective speech, dealing chiefly on the practical difficulties of the Private Medical Practitioners, the cut throat competition amongst them and the service men on the one hand and the quack vaids on the other hand, and exhorted them to have unity. He also dealt with the question of the I.M.S. and the services and placed before the audience the injustice done to the Indians in the same. In the end he asked all the practitioners to join the Indian Medical Association and present a united front.

Thereupon the members of the Private Medical Practitioners' Association unanimously resolved to convert their Association as a Branch of the Indian Medical Association.

With a vote of thanks to Col. Bhola Nauth the meeting terminated, and the next day the President, Secretary and some members of the Association saw the Colonel comfortably depart for Vizianagram.

CORRESPONDENCE

[The Editor is not responsible for views expressed in these columns.]

DISCIPLINARY MEASURES IN THE MEDICAL PROFESSION

To The Editor,
Journal of the Indian Medical Association.

Sir,

I have followed certain press extracts of Col. Bholanauth's speeches delivered in Northern India. From them, I infer that he is trying to unify the Medical profession and promote good understanding between practitioner and practitioner and thereby fortifying the general position of the medical profession in the present and future free India, in every sphere. The matter herein presented deals comprehensively with the conduct of the modern medical practice and ends with certain phases of the remedial measures that will be helpful to the general solidarity and physical well being of the medical profession, not of a few Districts or Provinces but of the whole of Indian Medical profession at large.

Modern Medical Ethics

In biology, the anthropologists, when they speak of Africa and Australia frequently abuse the cannibals because they were brutes and ate away the mankind and thereby turned the world shabby to the civilised outlook. Civilization is advancing but we are going down. In theory, everywhere there is progress, but in practice everywhere there is poverty. True it is "amid an eternal heritage of sorrow and suffering our work is laid". This eternal note of sadness, would become catostrophic if the daily tragedies were not relieved by the spectacle of the doctor's heroism. From the days of Herbert Spencer down to the beginning of the 20th century, Medical profession was said to be the noblest of all professions, but to-day it is scarcely found. The etiology of this condition if analysed with any patience will become voluminous, but the younger generation lay violent charges against the elders, that they have falsified the best traditions of an ancient and honourable profession by violating the medical ethics and several other causes. But however, it is only in the absurdities of yesterday alone, lies the wisdom of to-morrow.

Discipline and Unity

With a cultured and disciplined society anything can be done without much difficulty. The Doctors are never lacking in culture, but they are badly lacking in discipline and unity. Discipline and Unity can never be brought on an All-India scale unless the financial condition of the Doctors

is improved. Boasting about Public Health with half-starved stomachs practically leads us nowhere and results in forlorn hope. We read about preventive medicine in our studenthood. We also know that we have to spend lavish amounts after the disease has gained enough ground within the body towards its cure. Some of our brethren are very badly indulged in foreign education which is very suicidal to our national interests, and give very little respect to the Indian qualifications, inspite of the hard fact that the repair of the human machine is one and the same everywhere.

The psychology and the statesmanship of Britain will always come to a standstill especially in the case of colonies and protectorates and deviate towards preference to purely British qualifications throughout the great Empire, unless otherwise pressed upon for a change in the policy in specific items by the local exigencies. In his "Ideals and Morals" our great master, Sir William Osler says, "...Always seek your self-interest..." and "...face disaster boldly...". This is what exactly United Kingdom is doing, where as we Indians are gradually reaching more selfless position and tapping the reserve resources of our country to the advantage of the British Empire. The politicians call the All-India Federation a myth and seem to be very much interested in a Republic. Difference in the Indian qualifications is bringing very nasty effects on the weak mind, unlike the Indian Caste system. Cicero the great Roman writer in his Republic defines the nation as that which has a common understanding and is bound by a common law. Very few of us are foreign trained, and to arrive at a common understanding, they should go by the path of good will, sacrifice selfish ends, sink differences and identify themselves with those from the Indian institutions. Learn to respect your own brothers, irrespective of the qualifications they have, because be it to-day or to-morrow or a hundred years hence, you and your family are to live upon the resources of India alone. Africa is for Africans, Egypt for Egyptians, India for Indians, Blackman's country is for the Blackman and Whiteman's country is for the Whiteman. White magic can never be compared with the black magic of the orient. East and West can never meet together. We are to develop Eastern mentality with mutual love and respect between the various component parts of the Eastern hemisphere. On the other hand, if you exhaust our national wealth to-day, to secure the superfine expensive foreign services within the Indian border, inspite of sound and healthy instruction, you and your family will be economically depressed and check out the free circulation of Indian finance to foreign, elevate the depression and further impoverish the poverty stricken India. You cannot convert a thick populous country with excellent resources to a regular desert and calmly teach the philosopher's wording "peace over all the country". According to the teaching of our learned master, Sir William Osler, we have faced disaster boldly and we are now out to seek our self-interest, which may be obtained to some extent, if we adhere to the following principles.

Remedial Measures

To-day we find the medical profession overloaded with undesirables, which cannot be allowed to continue any further in the interests of national safety and professional respect. Those privileges that were hitherto given to a Registered Medical Practitioner have more or less become theoretical and were unable to guarantee a noble living to a duly qualified Doctor and therefore it is high time for the respective Governments in the Provinces to declare and protect the rights of its own kith and kin. We do not want to draw much classification between qualified Doctors, who want to enjoy the fruits of a meniature Republic worthy of our noble profession. A country like ours which has produced extra ordinary personalities like Charaka, Nagarjuna and Susruta in ancient times, J. C. Bose, Gandhijee, Raman, P. C. Ray and Tagore in the modern India we can look with full hope that we can run the public health of our country on a *par* with other countries of the west in our own way, even under a unified common law with generous treatment to every Indian qualification secured under the cover of the respective Provincial Governments and Universities on an equitable basis with foreign qualifications.

In my humble opinion the lay press is never dealing with the more complex technicalities of the medical science, fit to draw the attention of the duly qualified medical practitioners. As such, I see no moral claim for the lay press to publish medical advertisements. In our day-to-day practice, we are frequently getting patients with their own prescriptions often traced to the lay press. The qualified

medical practitioner whatever he practises will at least have a cursory glance at the professional medical press whenever he gets the opportunity and therefore the latter commands the full confidence of the whole profession. Owing to these reasons, I consider it advisible to request the provincial and interprovincial trading Medical concerns to refrain from advertising in the laiety in any ferm. They should choose one method only, either to stand or fall with qualified Doctor or go by the uncertain expensive path of appealing to the laiety and live mainly by their patronisation. They cannot continue double game, appealing to the Doctor and dealing with the patient.

It is not unusual for a medical man to find fault with the socalled capitalistic psuedo chemists and druggists who frequently modify the medical man's prescription at their will and pleasure, supply adulterated substandard drugs in the name of cheapness and commit much mischief for which the Doctor can never hold any responsibility whatsoever. They put the medical man's respect at stake. When we deprive the medical firms to withhold their full publicity campaign in the masses and closing every form of quackery in the name of discipline, we cannot preserve the cloak of the dangerous chemical armoury in the possession of lay men exclusively. I therefore consider it best to appeal to the Government to bring in a legislation extending the choice between a qualified chemist and druggist and a qualified medical practitioner to deal with the business side of the Medico-surgical profession.

Yours etc.,

Madras. P. Visweswara Rau, L I.M.

PSYCHOLOGICAL MEDICINE

To The Editor,

Journal of the Indian Medical Association.

Sir,

In 1932 the *Indian Medical Gazette* was kind enough to publish an article by me entitled, "The place of Psychiatry in the Medical Colleges and Schools in India". This contribution was based on data I had obtained through the circulation of a questionnaire to the Principals of all the Medical Colleges and Schools in India. The conclusion reached, after a careful study of the replies received to the questionnaire, was to the effect that in the medical college and schools throughout India, there was considerable room for improvement in the teaching of psychological medicine. In some medical colleges and schools no provision existed for any instruction whatever in psychological medicine. Elsewhere, notably in the Lahore, Calcutta, Madras, Patna and Bombay the courses of instruction all tended to deal principally with formal psychiatry with the result that far too much of the limited time was dedicated to a study of the psychoses and far too little to the study of the neuroses and psychoneuroses and none at all to mental hygiene and prophylaxis.

To the best of my knowledge my contribution brought forth only one practical response, the institution of a course of instruction in psychological medicine in the Berry-White Medical School at Dibrugarh.

In the year following (1933) the Calcutta branch of the Indian Association for Mental Hygiene started a Psychological Clinic at the Carmichael Medical College, Calcutta. This clinic is supervised by Dr. G. S. Bose, D.Sc., M.B., and is open on Tuesdays and Thursdays from 8 a.m. to 10 a.m. and during the year 1935, 483 cases were treated at this clinic. In view of the success which attended the foundation of this clinic, I began, early last year, to urge the authorities concerned to start a similar clinic at the Calcutta Medical College Hospital. I began by obtaining the views of the two most distinguished living English psychiatrists, Dr. Bernard Hart and Dr. Edward Mapother. Their advice I passed on to the Surgeon General to the Government of Bengal and to the Principal of the Calcutta Medical College. The latter was kind enough to invite me to call on him and discuss the proposal. The Principal, Lt.-Col. T. Crawford Boyd, I.M.S., was on the whole sympathetic. On the other hand, I received no encouragement, I might say no notice, at all from the Surgeon General, Major General D. P. Goil, I.M.S. Later, I wrote to the Hon'ble Minister, Sir Bejoy Prashad Singh Roy. In due course, I received an encouraging letter from him, dated the 24th February, 1936. There the matter stands for the present. In the last annual report of

the Psychological Clinic at the Carmichael Medical College, Calcutta, it is stated that the total expenditure of the Clinic for 1935 was Rs. 67/6/3 that represents a capital cost of 2 annas 9 pies per patient. One might expect that a psychological clinic open for two hours on two days every week at the Medical College Hospital would deal with more patients than the Carmichael Medical College as it is a larger institution in every way. It might need as many as three days every week as soon as its existence became known to the public. In any case, the total annual expenditure should hardly exceed Rs. 100/-. Quite apart from the relief such a clinic would bring to the neurotics among the poor of Calcutta, the clinic would serve the further purpose, and that a very important one, of providing clinical material for students. It might also serve the purpose of recruiting to the all-too-sparsely filled ranks of competent alienists in India, keen and intelligent young men who would make up their minds to devote themselves to the practice of psychiatry. As I had occasion to observe in my contribution to the *Indian Medical Gazette*, to which I have already alluded, I am convinced that the medical student will profit more if, instead of beginning his course of instruction, as is now the custom, with the psychoses or with a demonstration of pathological reactions exhibited by patients with psychoses, instruction is begun with the simpler emotional reactions. By means of such a course the student will get some idea of himself as well as of his patient with whom he has to deal. He may come to understand, as he has never done before, his own emotional reactions, his own response to his patient and his patient's response to him.

All of us should do well if we bear in mind the wisdom of that truly great physician, Sir James Mackenzie who always spoke of the "science of medicine" for he understood so much better than most of his contemporaries that this term includes the whole universe of knowledge, of emotion and of reaction. There is nothing that man has ever thought or felt which cannot be used for his preservation or his healing, and which, therefore, does not concern his physician.

Yours etc.,

Owen Berkeley-Hill,
M.A., M.D., LT.-COL. I.M.S. (Retd.).

Ranchi,
May, 1936.

CENTENARY OF THE FIRST DISSECTION IN INDIA

To THE EDITOR,

Journal of the Indian Medical Association.

Sir,

The 10th of January, 1936, is a memorable Centenary in the history of Medicine in India, for, it was on this auspicious day exactly a hundred years ago, that the great innovation in the method of medical education, namely, dissection of human bodies, was introduced in the then infant institution, the Calcutta Medical College.

Medical education of a sort had always been available in India from very ancient days and this was based on a fragmentary and sometimes fantastic anatomical lore, not verified either by the teacher or the pupil. Ayurvedic scholars claim that anatomical dissection was part of the medical curriculum in the days of Shushruta. In the beginning of the 19th century, some Sanskrit Schools and the Calcutta Native Medical Institution founded in 1822, were training natives in Ayurveda and Allopathic systems of Medicine. But the methods of teaching were entirely confined to lectures and readings from classics. One of the soundest reasons urged in 1833, for the starting of the Medical Colleges was that there was no practical dissection on human bodies in any of the existing institutions, for training natives to medical careers.

Medical historians have commemorated certain dates associated with the renaissance of Medicine in Europe. Public dissection was first done at Bologne by Mondeno de Luzzi (1270-1326) who wrote a practical manual on anatomy in 1316 A.D. After his time, dissection gained a firm foothold as a mode of instruction. Public dissections were decreed at Montepellier (1366), Venice (1368), Florence (1388), Vienna (1404) and Padua (1429). Anatomic theatres were erected at Padua in 1445, at Montepellier in 1551, at Balse in 1588. At the Paris Faculty, four dissections annually had been required from the later half of the 15th century. In England, Henry VIII, passed a law in 1540, authorising barbars and surgeons to use 4 bodies of executed criminals for anatomic study. Queen Elizabeth had made a grant of two bodies of criminals for dissections by the two holders of medical fellowships at Cambridge. Even before the

advent of Vesalius, the great painters of renaissance were making dissections at Florence, Milan and Rome. The publication, in 1555, of the epoch-making book "The Fabric" by Vesalius, the Father of Modern Anatomy, marks the commencement of the new era in Medicine.

And is it not our duty to remember the first Indian who, breaking through agelong traditions, courageously came forward to touch a corpse and dissect it, thus leading the way to truth and knowledge. This great honour is due to Madhusudan Gupta, a Hindu of the Vaidya caste. Formerly a teacher of medicine at the Sanskrit College, he joined the newly founded Medical College and was assisting Dr. H. H. Goodeve, the only Assistant to the Superintendent of the College. In the course of two years, practical anatomy had a place in the medical curriculum in India. It would be a source of great pleasure and inspiration if any antiquarian of Calcutta could take the trouble to publish a photo of this pioneer, if one is available, with a sketch of the anatomical theatre of his day.

The seed sown by Madhusudan Gupta has ever since grown into a magnificent tree spreading its roots and shoots far and wide. The tree has also begun to flower as shown by the numerous anatomical and pathological Museums all over the country. The fruit, namely, fundamental contributions to knowledge, are yet to come. Nevertheless, the 10th of January, 1836, and Madhusudan Gupta and his first dissection deserve a niche in the History of Medicine in India.

Yours etc.,

Vizagapatam. D. V. Subba Reddi.

BOOK REVIEWS

Post-Graduate Surgery, Vol. I, edited by Rodney Maingot, Medical Publications Ltd., 25, Soho Square, London, W. 1. 1936. Royal Octavo, 1742 pages with 846 figures. Price 50 Shillings per volume.

A publication like this was badly needed for post-graduate training of doctors with surgical ambitions.

Books on Surgery in vogue, are stereotyped in character and repeat surgical facts and fiction with unvarying regularity. They are possibly useful to the medical students preparing for their medical degree and diplomas and therefore intent on memorizing surgical statements in textbooks and presenting them in the answer papers as so many separate items of information calculated to secure the largest number of marks. It is not for them to be critical of what they read nor have they the necessary time and surgical experience to be discriminating.

But for the doctor, who desires to specialize in surgery and for the general practitioner as well, the ordinary text books on surgery are in many respects disappointing. They are usually lacking in detailed information regarding pre-operative and post-operative care of surgical patients essential for their successful treatment.

In fact it will not be an exaggeration to say that such information is not merely meagre but is often wanting altogether.

As regards pathology, signs and symptoms and treatment etc., the safe line of presenting only orthodox views is usually followed in text books and it is only rarely that one meets with a refreshing departure from this practice, when the surgeon takes courage in both hands and dares say his personal views.

The book under review is a happy departure from the old, hackneyed methods of surgical writing, which have brought about stagnation in standard surgical literature in English.

Written by different writers, who are specialists in various branches of surgery, the book is written

lucidly and with a wealth of detail, specially regarding pre-operative and post-operative treatments, which will prove extremely valuable to doctors for whom it is intended.

The authors have freely given of their best of the intimate knowledge of surgery acquired by long practice. It is a work which we read with pleasure and profit. The chapters on Anaesthesia and Radiology are also up-to-date and extremely well written.

The book is lavishly illustrated. The illustrations are well got up and very useful, the pathological ones being mostly photographs from actual specimens.

We commend the book as the best work in English for post-graduate study of that rapidly advancing science, surgery.

P. BANERJEE.

Treatment of Fractures in General Practice (Vol. I & II) by W. H. Ogilvie, Published by John Bale, Sons and Danielson, Ltd., London, 1936. Double Foolscap 16 mo. 180 pages, with 37 figures.

The second edition of Mr. Ogilvie's "Treatment of Fractures in general practice" has just come out. This will not only be useful to the general practitioners but will be of great help to the students going up for any examination in surgery.

Treatment of factures by plaster of Paris splints and skeletal traction is going to hold the field now and Mr. Ogilvie in his book, indicates the learnings of the younger school of British surgeons, which is gaining ground everyday. His advocacy of unpadded plastering and local anaesthesia marks a distinct departure from the usual practice.

Mr. Ogilvie has done well in not starting to describe the splints etc., as there is always a tendency to fit the fractured limb into the splint and not to fit the splint into the limb. Most of these splints are hardly useful and are not being used so often. Many are again costly and cumbrous.

He could have included the Dislocations, though the title of the book does not want to do so. The usual tendency is to think of these two injuries together.

A. K. SEN.

Medical Guide and Index of Treatment by E. J. O'Meara, Published by Butterworth & Co. (India), Ltd., 4th Edition, 1935. Demy Octavo, 1234 pages.

O'Meara's The Medical Guide for India and Index of Treatment is already widely known to the profession in India and enjoys a well deserved popularity.

The present edition whilst thoroughly maintaining the reputation of its predecessors shows marvellous improvement in all the sections, which have been brought thoroughly up-to-date. In performing this task the author and the publishers are to be congratulated on securing the collaboration of well-known medical men who are recognised authorities in their respective subjects.

Section I gives in a concise form an excellent Index of treatment containing well-tried prescriptions and is likely to be of immense use to the busy general practitioners.

Section II deals with special therapeutic measures and deals among other things admirably in a short compass the various forms of Physical Therapy such as Phototherapy, Electrotherapy, X-ray therapy and Radium therapy.

Section III deals with the question of Diet in health and disease, and includes a chapter on infant feeding. The chapter on the caloric value and composition of different food stuffs will be of particular help to the physician faced with the problem of drawing up a dietary for his diabetic patients.

Section IV deals with Surgery including all the special branches thereof and even Dentistry has found a place, which certainly adds to the helpfulness of the section and makes it more complete.

Section V dealing with medicine includes a chapter on Examination for Life Insurance, a task which many of us are not infrequently confronted with. The next Section (SectionVI) dealing with Obstetrics and Gynecology includes excellent articles from the pen of Col. Green-Armytage, a well-known authority on Tropital Obstetrics and Gynecology, who has a host of admirers in this country.

Section VIII contains information on Hygiene and Public Health and we can assure that even the Health Officers will find many a useful tip here and there.

Section IX on Medico-legal question and Lunacy will be found be extremely useful as it contains many an information not found in the usual text books on the subjects. A list of Mental Hospitals in India is given in this section.

Section X deals with Diagnostic Methods which includes methods of laboratory diagnosis. As it is not possible in a book like this to give very detailed description of some of the highly specialized methods of examination such as Electro-cardiography, the authors have dealt exhaustively with only those methods which are likely to be practised by the general physicians, and explaining the principles and assessing the diagnostic value of the others which the specialist and the laboratory man is usually called upon to do.

Section XI on Pharmacopoeia and Pharmacology incorporates all the changes of the New. B.P. and contains a short article on Indigenous Drugs of India by Col. Chopra and a short article on Incompatibility adds to the usefulness of this section.

The concluding chapter contains some miscellaneous information which includes a list of articles which should be regarded as the standard equipment of a model branch dispensary.

We heartily recommend this book to every medical man practising in India, as a "miniature Encyclopaedia of medicine for the Tropics".

T. N. GHOSH.

ACKNOWLEDGMENT

Books received for review:—

1. Introduction to Human Parasitology, Chapman & Hall, 11, Henrietta Street, Covent Garden, London.
2. Family Medical Insurance, John Bale Sons & Danielsson Ltd., London, W. 1.
3. Allergy of the Nose & Paranasal Sinuses, C. V. Mosby Co., 3523, Pine Boulevard, St., Lousis M. O.
4. Pharmacopoeia and Guide, School of Tropical Medicine, Calcutta.
5. Narrative of an Investigation concerning an Ancient Medical Remedy and its Modern Utilities, by Macalister & Titherby, John Bale, Sons & Danielsson Ltd., London, W. 1.
6. Manual of Emergencies by Snowman, John Bale Sons & Danielsson Ltd., London, W. 1.